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4.2

MBA

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LOGISTICS MARKETING AND TECHNOLOGY

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MBA

Paper – 4B2

Self Learning Material



DIRECTORATE OF DISTANCE EDUCATION
ALAGAPPA UNIVERSITY
KARAIKUDI - 630004
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SYLLABUS

MBA

4B2: LOGISTICS MARKETING AND TECHNOLOGY

Unit 1: Marketing Concepts - Marketing Environment and System -Approaches to the study of marketing- Industrial, Consumer and Service Marketing - Marketing Mix- Marketing by 3Pl and 4PL services.

Unit 2: User Behaviour and Networking - User Decision Making process - Market Segmentation - Concentrated Marketing - Differentiated and Undifferentiated Marketing - Service positioning - Networking: Networking with Shippers, Wholesalers and Industries- Networking with Warehouse service providers, Transport operators.

Unit 3: Product and Price Mix Decisions – Line, Range and Consistency of (Product) Service Mix offering - Innovative product offering - New Service Planning and development Process - Service Life Cycle - BCG Product Portfolio concept and uses- Price mix decisions – Pricing: Objectives & Methods - Pricing Policies - New product pricing strategies- Reacting to competitor price changes.

Unit 4: Promotion and Distribution Mix Decisions: Promotools- Advertisement: Types and Importance- Sales Promotion: Types and Relevance- Publicity: Concept and Significance- Salesmanship: Types and Traits- Budgeting for Promotional expenses- Distribution mix decisions- Local, National, Regional and Global Choices.

Unit 5: Supply Chain Software Technology: WMS, TMS, LMS, OMS, WCS and Network Optimization- Software Evaluations & Selections-Logistics Network Optimizations- Transportation routing, mileage and mapping software-RFID (Radio Frequency Identification) technology- Integrated GPS, Wireless Data and Micro-Chip Technology System- Tracking Technology.

Unit 6: Transport Technology: Advances in Shipping Technology- Flight Technology- Truck Technology – Rail Technology – Billing Technology- Payment Technology- (ISO 9000)- Total Quality Management (TQM) and benchmarking.

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UNIT 1 MARKETING CONCEPTS

Structure

1.0 INTRODUCTION

The 21st century has seen the advent of the new economy, thanks to the technology innovation and development. To understand the new economy, it is important to understand in brief characteristics and features of the old economy. Industrial revolution was the start point of the old economy with focus on producing massive quantities of standardized products. This mass product was important for cost reduction and satisfying large consumer base, as production increased companies expanded into new markets across geographical areas. The old economy had the organizational hierarchy where in top management gave out instructions which were executed by the middle manager over the workers.

In contrast, the new economy has seen the buying power at all time thanks to the digital revolution. Consumers have access to all types of information for product and services. Furthermore, standardization has been replaced by more customization with a dramatic increase in terms of product offering. Purchase experience has also changed as well with the introduction of online purchase, which can be done 24 × 7 with products getting delivered at office or home.

Companies have also taken advantage of information available and are designing more efficient marketing programs across consumers as well as the distribution channel. Digital revolution has increased speed of communication mobile, e-mail SMS, etc. This helps companies take faster decisions and implement strategies more swiftly.

Marketing is the art of developing, advertising and distributing goods and services to the consumers as well as business. However, marketing is not just limited to goods and services, it is extended to everything from places to ideas and in between. This brings forth many challenges within which marketing people have to take strategy decisions. And answer to these challenges depends on the market the company is catering to, for consumer market decisions are with respect to product, packaging and distribution channel. For business market, knowledge and awareness of product is very essential for marketing people as businesses are on the lookout to maintain or establish a credential in their respective market. For global market, marketing people have to consider not only culture diversity but also be careful with respect to international trade laws, trade agreement, and regulatory requirements of individual market. For non for profit organization with limited budgets, importance is related to pricing of products, so companies have to design and sell products accordingly.

Marketing philosophy employed by any given company has to be mix of organization interest, consumer interest and societal interest. In production philosophy, companies focus on numbers, high production count, which reduces cost per unit along with mass distribution. This kind of concept is usually making sense in a developing market where there is the need of product in large numbers. The product philosophy talks about consumers who are willing to pay an extra premium for high quality and reliable performance, so companies focus on producing well made products. The selling concept believes in pushing consumers into buying of products, which under normal circumstance, they would be resistant. The marketing concept believes in consumer satisfaction, thereby developing and selling products keeping focus solely on customer needs and wants. The customer philosophy believes in the creation of customized products, where in products is design looking at historical transaction of consumers. The last philosophy is the societal concept which believes in developing products, which not only generate consumer satisfaction but also take into account well being of society or environment.

Digital revolution and 21st century have made companies fine tune the way they conduct their business. One major trend observed is the need of streamlining processes and systems with the focus on cost reduction through outsourcing. Another trend observed in companies is, encouragement to entrepreneur style of work environment with glocal (global-local) approach. At the same time, marketers of companies are looking forward to building long-term relationship with consumers. This relationship establishes platform understanding consumer needs and preference. Marketers are looking at distribution channels as partners in business and not as the customer. Companies and marketers are making decisions using various computers simulated models.

1.1 UNIT OBJECTIVES

After going through this unit, you will be able to:

- Describe the marketing environment and system

- Explain the approaches to the study of marketing
- Describe industrial, consumer and service marketing
- Define marketing mix
- Describe marketing by 3PL and 4PL services.

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1.2 MARKETING ENVIRONMENT AND SYSTEM

Marketing is a general term used to describe all the various activities involved in transferring goods and services from producers to consumers. In addition to the functions commonly associated with it, such as advertising and sales promotion, marketing also encompasses product development, packaging, distribution channels, pricing, and many other functions. The modern marketing concept, which is applied by most successful small businesses, is intended to focus all of a company's activities upon uncovering and satisfying customer needs. After all, an entrepreneur may come up with a great product and use the most efficient production methods to make it, but all the effort will have been wasted if he or she is unable to consummate the sale of the product to consumers.

In order to correctly identify opportunities and monitor threats, the company must begin with a thorough understanding of the marketing environment in which the firm operates. The marketing environment consists of all the actors and forces outside marketing that affect the marketing management's ability to develop and maintain successful relationships with its target customers. Though these factors and forces may vary depending on the specific company and industrial group, they can generally be divided into broad micro environmental and macro environmental components. For most companies, the micro environmental components are: the company, suppliers, marketing channel firms (intermediaries), customer markets, competitors, and publics which combine to make up the company's value delivery system. The macro environmental components are thought to be: demographic, economic, natural, technological, political, and cultural forces. The wise marketing manager knows that he or she cannot always affect environmental forces. However, smart managers can take a proactive, rather than reactive, approach to the marketing environment.

As marketing management collects and processes data on these environments, they must be ever vigilant in their efforts to appiy what they learn to developing opportunities and dealing with threats. Studies have shown that excellent companies not only have a keen sense of customer but an appreciation of the environmental forces swirling around them. By constantly looking at the dynamic changes that are occurring in the aforementioned environments, companies are better prepared to adapt to change, prepare long-range strategy, meet the needs of today's and tomorrow's customers, and compete with the intense competition present in the

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global marketplace. All firms are encouraged to adopt an environmental management perspective in the new millennium.

The marketing environment is made up of two components:

- Macro Environment
- Micro Environment

Macro Environment

The company and all of the other actors operate in a larger macro environment of forces that shape opportunities and pose threats to the company. There are six major forces (outlined below) in the company's macro environment.

- Demographic
- Economic
- Natural
- Technological
- Political
- Cultural

A. Demographic Environment

Demography is the study of human populations in terms of size, density, location, age, sex, race, occupation, and other statistics. It is of major interest to marketers because it involves people and people make up markets. Demographic trends are constantly changing. Some more interesting ones are.

1. The world's population (though not all countries) rate is growing at an explosive rate that will soon exceed food supply and ability to adequately service the population. The greatest danger is in the poorest countries where poverty contributes to the difficulties. Emerging markets such as China are receiving increased attention from global marketers.
2. The most important trend is the changing age structure of the population. The population is aging because of a slowdown in the birth rate (in this country) and life expectancy is increasing. The baby boomers following World War II have produced a huge "bulge" in our population's age distribution. The new prime market is the middle age group (in the future it will be the senior citizen group). There are many subdivisions of this group.
   - Generation X, this group lies in the shadow of the boomers and lack obvious distinguishing characteristics. They are a very cynical group because of all the difficulties that have surrounded and impacted their group.
   - Echo boomers (baby boomlets) are the large growing kid and teen market. This group is used to affluence on the part of their parents (as different from the Gen Xers). One distinguishing characteristic is their utter fluency and

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comfort with computer, digital, and Internet technology (sometimes called Net-Gens).

- Generational marketing is possible, however, caution must be used to avoid generational alienation. Many in the modern family now "telecommute"– work at home or in a remote office and conduct their business using fax, cell phones, modem, or the Internet. In general, the population is becoming better educated. The work force is becoming more white-collar. Products such as books and education services appeal to groups following this trend. Technical skills (such as in computers) will be a must in the future. The final demographic trend is the increasing ethnic and racial diversity of the population. Diversity is a force that must be recognized in the next decade. However, companies must recognize that diversity goes beyond ethnic heritage. One of the important markets of the future are disabled people (a market larger any of our ethnic minority groups).

B. Economic Environment

The economic environment includes those factors that affect consumer purchasing power and spending patterns. Major economic trends in the United States include:

- Personal consumption (along with personal debt) has gone up (1980s) and the early 1990s brought recession that has caused adjustments both personally and corporately in this country. Today, consumers are more careful shoppers.
- Value marketing (trying to offer the consumer greater value for their dollar) is a very serious strategy in the 1990s. Real income is on the rise again but is being carefully guarded by a value-conscious consumer.
- Income distribution is still very skewed in the U. S. and all classes have not shared in prosperity. In addition, spending patterns show that food, housing, and transportation still account for the majority of consumer dollars. It is also of note that distribution of income has created a "two-tiered market" where there are those that are affluent and less affluent. Marketers must carefully monitor economic changes so they will be able to prosper with the trend, not suffer from it.

C. Natural Environment

The natural environment involves natural resources that are needed as inputs by marketers or that are affected by marketing activities. During the past two decades environmental concerns have steadily grown. Some trend analysts labeled the specific areas of concern were:

- **Shortages of raw materials:** Staples such as air, water, and wood products have been seriously damaged and non-renewable such as oil, coal, and various minerals have been seriously depleted during industrial expansion.

- **Increased pollution:** Is a worldwide problem. Industrial damage to the environment is very serious. Far-sighted companies are becoming "environmentally friendly" and are producing environmentally safe and recyclable or biodegradable goods. The public response to these companies is encouraging. However, lack of adequate funding, especially in third world countries, is a major barrier.
- **Government intervention:** In natural resource management has caused environmental concerns to be more practical and necessary in business and industry. Leadership, not punishment, seems to be the best policy for long-term results. Instead of opposing regulation, marketers should help develop solutions to the material and energy problems facing the world.
- **Environmentally sustainable strategies:** The so-called green movement has encouraged or even demanded that firms produce strategies that are not only environmentally friendly but are also environmentally proactive. Firms are beginning to recognize the link between a healthy economy and a healthy environment.

D. Technological Environment

The technological environment includes forces that create new technologies, creating new product and market opportunities.

1. Technology is perhaps the most dramatic force shaping our destiny.
2. New technologies create new markets and opportunities.

The following trends are worth watching:

- Faster pace of technological change. Products are being technologically outdated at a rapid pace.
- There seems to be almost unlimited opportunities being developed daily. Consider the expanding fields of health care, the space shuttle, robotics, and biogenetic industries.
- The challenge is not only technical but also commercial–to make practical, affordable versions of products.
- Increased regulation. Marketers should be aware of the regulations concerning product safety, individual privacy, and other areas that affect technological changes. They must also be alert to any possible negative aspects of an innovation that might harm users or arouse opposition.

E. Political Environment

The political environment includes laws, government agencies, and pressure groups that influence and limit various organizations and individuals in a given society. Various forms of legislation regulate business.

1. Governments develop public policy to guide commerce–sets of laws and regulations limiting business for the good of society as a whole.
2. Almost every marketing activity is subject to a wide range of laws and regulations. Some trends in the political environment include increasing legislation to:
   - Protect companies from each other
   - Protecting consumers from unfair business practices
   - Protecting interests of society against unrestrained business behaviour
3. Changing government agency enforcement. New laws and their enforcement will continue or increase.
4. Increased emphasis on ethics and socially responsible actions. Socially responsible firms actively seek out ways to protect the long-run interests of their consumers and the environment.
   - Enlightened companies encourage their managers to look beyond regulation and "do the right thing."
   - Recent scandals have increased concern about ethics and social responsibility.
   - The boom in e-commerce and Internet marketing has created a new set of social and ethical issues. Concerns are Privacy, Security, Access by vulnerable or unauthorized groups.

F. Cultural Environment

The cultural environment is made up of institutions and other forces that affect society's basic values, perceptions, preferences, and behaviours. Certain cultural characteristics can affect marketing decision-making. Among the most dynamic cultural characteristics are:

1. Persistence of cultural values. People's core beliefs and values have a high degree of persistence. Core beliefs and values are passed on from parents to children and are reinforced by schools, churches, business, and government. Secondary beliefs and values are more open to change.
2. Shifts in secondary cultural values. Since secondary cultural values and beliefs are open to change, marketers want to spot them and be able to capitalize on the change potential. Society's major cultural views are expressed in:

- People's views of themselves. People vary in their emphasis on serving themselves versus serving others. In the 1980s, personal ambition and materialism increased dramatically, with significant implications for marketing. The leisure industry was a chief beneficiary.
- People's views of others. Observers have noted a shift from a "me-society" to a "we-society." Consumers are spending more on products and services that will improve their lives rather than their image.

- People's views of organizations. People are willing to work for large organizations but expect them to become increasingly socially responsible. Many companies are linking themselves to worthwhile causes. Honesty in appeals is a must.
- People's views of society. This orientation influences consumption patterns. "Buy American" versus buying abroad is an issue that will continue into the next decade.
- People's view of nature. There is a growing trend toward people's feeling of mastery over nature through technology and the belief that nature is bountiful. However, nature is finite. Love of nature and sports associated with nature are expected to be significant trends in the next several years.
- People's views of the universe. Studies of the origin of man, religion, and thought-provoking ad campaigns are on the rise. Currently, Americans are on a spiritual journey. This will probably take the form of "spiritual individualism."

Micro Environment

The micro environment in marketing consists of five components. The first is the organization's internal environment—its several departments and management levels—as it affects marketing management's decision-making. The second component includes the marketing channel firms that cooperate to create value: the suppliers and marketing intermediaries (middlemen, physical distribution firms, marketing-service agencies, financial intermediaries). The third component consists of the five types of markets in which the organization can sell: the consumer, producer, reseller, government, and international markets. The fourth component consists of the competitors facing the organization. The fifth component consists of all the public that have an actual or potential interest in or impact on the organization's ability to achieve its objectives: financial, media, government, citizen action, and local, general, and internal publics. So the microenvironment consists of six forces close to the company that affect its ability to serve its customers:

- The company itself (including departments)
- Suppliers
- Marketing channel firms (intermediaries)
- Customer markets
- Competitors
- Publics

As discussed earlier the company's microenvironment consists of six forces that affect its ability to serve its customers. Let's discuss these forces in detail:

A. The Company

The first force is the company itself and the role it plays in the microenvironment. This could be deemed the internal environment.

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- Top management is responsible for setting the company's mission, objectives, broad strategies, and policies.
- Marketing managers must make decisions within the parameters established by top management.
- Marketing managers must also work closely with other company departments. Areas such as finance, R & D, purchasing, manufacturing, and accounting all produce better results when aligned by common objectives and goals.
- All departments must "think consumer" if the firm is to be successful. The goal is to provide superior customer value and satisfaction.

B. Suppliers

Suppliers are firms and individuals that provide the resources needed by the company and its competitors to produce goods and services. They are an important link in the company's overall customer "value delivery system."

- One consideration is to watch supply availability (such as supply shortages).
- Another point of concern is the monitoring of price trends of key inputs. Rising supply costs must be carefully monitored.

C. Marketing Intermediaries

Marketing intermediaries are firms that help the company to promote, sell, and distribute its goods to final buyers.

- Resellers are distribution channel firms that help the company find customers or make sales to them. These include wholesalers and retailers who buy and resell merchandise. Resellers often perform important functions more cheaply than the company can perform itself. However, seeking and working with resellers is not easy because of the power that some demand and use.
- Physical distribution firms help the company to stock and move goods from their points of origin to their destinations. Examples would be warehouses (that store and protect goods before they move to the next destination).
- Marketing service agencies (such as marketing research firms, advertising agencies, media firms, etc.) help the company target and promote its products.
- Financial intermediaries (such as banks, credit companies, insurance companies, etc.) help finance transactions and insure against risks.

D. Customers

The company must study its customer markets closely since each market has its own special characteristics. These markets normally include:

- Consumer markets (individuals and households that buy goods and services for personal consumption).
- Business markets (buy goods and services for further processing or for use in their production process).

- Reseller markets (buy goods and services in order to resell them at a profit).
- Government markets (agencies that buy goods and services in order to produce public services or transfer them to those that need them).
- International markets (buyers of all types in foreign countries).

E. Competitors

Every company faces a wide range of competitors. A company must secure a strategic advantage over competitors by positioning their offerings to be successful in the marketplace. No single competitive strategy is best for all companies.

F. Publics

A public is any group that has an actual or potential interest in or impact on an organization's ability to achieve its objectives. A company should prepare a marketing plan for all of their major publics as well as their customer markets. Generally, publics can be identified as being:

- Financial publics–influence the company's ability to obtain funds
- Media publics–carry news, features, and editorial opinion
- Government publics–take developments into account
- Citizen-action publics–a company's decisions are often questioned by consumer organizations
- Local publics–includes neighbourhood residents and community organizations
- General public–a company must be concerned about the general public's attitude toward its products and services
- Internal publics–workers, managers, volunteers, and the Board of Directors

1.3 APPROACHES TO STUDY OF MARKETING

The following are the major approaches to study of marketing:

A. Commodity Approach to Marketing

This approach focuses on flow of commodity. According to this approach marketing is the function of flow of commodity from source of production to the place of consumption. It is concerned with demand, supply, channels and transportation. This approach is prevalent in agro-oriented economics.

Advantages

- This approach is concerned with flow of specific commodity from supplier to consumer
- This approach establishes marketing system for each commodity

Disadvantages

- This approach results in duplication of marketing efforts
- It is time consuming and costly

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B. Functional Approach to Marketing

This approach focuses on different functions of marketing. It is concerned with the following functions of marketing.

- **Exchange Function:** This is the primary function of marketing. It is related with the buying and selling function. Buying function involves demand forecast, identification of supply sources, purchase of raw material, machinery and IT. Whereas selling function involves identification of costumer, demand stimulation, price fixation and promotion. It is the key function of marketing.
- **Distribution Function:** This is the supporting function of marketing. It covers the area of transportation and storage. Finished products are transported to the consumer through the means of transportation and storage is related with inventory management.
- **Facilitating Function:** This is the auxiliary function of marketing. It involves standardization, finished goods are standardized and graded. Financing needed—financial resources can be fulfilled by loan. All types of marketing risk are managed and insured. All the information are flowed and gathered and research and development are done about new trade, competitors and environmental dynamics.

Advantages

- This approach is concerned both with flow of commodity and institutions in the movement of goods
- It gives emphasis on the function of marketing
- Disadvantages
- This approach gives more emphasis to the marketing function whereas it ignores costumer needs.

C. Institutional Approach

This approach focuses on various institutions involved in marketing. They can be related to product, price and promotion. There are several institutions related to marketing.

- Producer and manufacturers: Produce raw material, manufacturers convert raw material into finished goods.
- Middleman: Wholesaler, resellers, agents etc.
- Facilitating institution: transportation agencies, public warehouses (provides facilities for storage of goods.), Advertising agencies, financial institution, Research and consultancy firms (solves marketing problems).

Advantage

- The understanding of institutions helps marketing and its cost can be reduced through proper selection of institution.

Disadvantage

- This approach does not provide a total view of marketing and its also ignores costumer needs.

D. System Approach to Marketing

This approach is system-oriented. A marketing system is a collection of interrelated and interaction parts to achieve objectives. Marketing system consists of input, processing, output, and feedback components that operate in a dynamic environment.

- **Input:** It includes the marketing mix element: product, price, place and promotion.
- **Processing:** It consists of environmental influences and buyer decision for purchase.
- **Output:** It consists of objectives achievement in terms of profit, service, growth, survival, leadership.
- **Feedback:** It provides information to redesign inputs and processing.
- **Environment:** These components as well as the whole system are affected by dynamic environment. This may be the internal environment and external environment.

Advantages

- **Synergy:** In this approach marketing does not give undue importance to any one element of marketing mix. It looks at the total picture.
- **Marketing effectiveness:** Marketing objectives are effectively achieved. Marketing resources are efficiently utilized.
- Changing forces in the environment are carefully considered in designing the marketing mix.

Disadvantage

- It ignores costumer needs. It is difficult to implement.

E. Environmental Approach to Marketing

This approach is concentrated to the environment within which it operates. Marketing operates in a dynamic environment. It should continuously monitor and adopt to the changing environment to achieve objectives. There are mainly two forces of environment which affects the marketing, they are internal forces and external forces.

F. Managerial Approach to Marketing

This approach is management-oriented. It focuses on managerial decisions related to marketing. It emphasizes achievement of goals by getting marketing jobs done through people. This concept basically gives emphasis on following managerial means:

- **Marketing Planning:** It is the process of setting marketing goals and choosing future marketing action to achieve these goals. It includes the SWOT analysis, establishment of marketing goals, selecting marketing action to achieve goals, designing marketing mix, co-ordination of marketing activities etc.
- **Marketing Implementation:** Implementation means assignment and direction of human resource to carry out the marketing plan in a co-ordinated manner. In this phase human resources are hired, channels for distribution are selected, physical and financial resources are provided. Organization climate is created by improving the quality of work environment.
- **Marketing Control:** It ensures that the right things are done in the right manner and at the right time. Marketing control is the measurement and correction of marketing performance to achieve planned goals. This process includes the establishing standards, measuring actual performance, finding deviation (difference between actual performance and standard performance.) and taking the corrective action.

Advantages

- This approach uses both qualitative and quantitative techniques for marketing decision-making.
- Timely decision-making helps marketing to achieve objectives.

Disadvantage

- This approach ignores costumer and the environmental dynamics.

G. Economic Approach to Marketing

According to this approach marketing is the process of buying and selling of goods and services. Wants are unlimited but resources to fulfill those needs are scarce. Marketing helps to make effective use of scarce resources.

The assumptions of this approach are:

- There are many individual firms in the market
- The objectives of these firms is to maximize profit
- The buyer wants to get maximum satisfaction
- Both the buyer and seller have complete information about market
- Price is determined by the interaction between demand and supply

Advantage

- This approach is well developed and popular among economists.

Disadvantage

- This approach is based on various assumptions and has no relevance in the world of marketing

1.4 INDUSTRIAL, CONSUMER AND SERVICE MARKETING

If you're a manufacturer, or a business that supplies things to manufacturers, you know that industrial marketing—marketing and selling industrial products to other businesses—isn't the same as consumer (selling to individuals) or business-to-business (selling to other businesses) marketing. The differences can mean the difference between being successful and not. In this article, we'll explore the differences (and the similarities) so you'll be better positioned to market and sell your products and services to the right customers.

Industrial Marketing

An industrial market involves one business dealing in goods or services to another business instead of a consumer base. Also known as the business-to-business market, this market encompasses three distinct variations, including businesses selling goods, businesses selling raw materials and businesses selling services. Each of these three happen in a variety of individual businesses. There are many advantages of this type of market over the traditional consumer market.

The industrial market focuses solely on the goods and services provided for producing a separate end product. This is an organizational market with its own advertising, distribution and sales. From automobiles to food, clothes and more, consumer industrial products would not be available without the industrial market first being utilized.

Many companies within an industrial market specialize in selling goods to other industries in order to help them produce an end product. These companies normally do not offer these products to the general public, because there would be little use for them to an individual consumer. A company producing an industrial loom for creating garments would be one example of a company utilizing this market. Computer programs are another example, especially networks or specialized programs that aid in the production of goods and services.

The industrial market equally benefits from groups that sell raw materials to other companies that use them to create end products. The selling companies tend to have some products that would be useful to individual consumers, but they generally sell

Check Your Progress

1. Define marketing.
2. What do you mean by marketing environment?
3. Who are the market intermediaries?

goods in bulk numbers that are not practical for consumers. Some of these companies focus a small portion of the business on consumer goods but generally do only business-to-business deals. An excellent example would be selling raw wool to the same company that bought industrial looms, with that company using the wool and looms to produce sweaters, socks and scarfs.

The third type of industrial market deals solely with selling services to other businesses. These groups do not provide any physical goods but supply manpower and expertise in particular areas. This can be a physical act, such as cleaning up hazardous materials that are produced by industrial machinery. It also can be more data-based, such as providing business accounting for companies.

Size is the one great advantage that the industrial market has over the consumer market. This does not refer to the size of the product but to the pool of potential outlets. Unlike consumer products that must be marketed to fit many lifestyles and preferences, these products and services are aimed at a handful of specific business models. This makes refining a product and communicating to buyers much simpler.

Consumer Marketing

Consumer marketing refers to the transaction of goods and services between organizations and potential customers. In consumer markets, products are sold to consumers either for their own use or use by their family members.

Products in consumer market are further categorized into:

1. **Fast Moving Consumer Goods (Abbreviated as FMCG):** Fast moving consumer goods are items that are sold quickly to the end-users generally at nominal costs. Example - Aerated drinks, grocery items and so on.
2. **Consumer Durables:** Goods that a consumer uses for a considerable amount of time rather than consuming in one use are categorized under Consumer Durables. Consumer Durables are further categorized into—White Goods and Brown Goods.
    - *White Goods:* (refrigerators, microwaves, air conditioners and so on (Majorly all household appliances)
    - *Brown Goods:* (television, CD players, radio, game consoles (Majorly used for entertainment and fun)
3. **Soft Goods:** Soft goods are products which have a shorter life cycle and their value decreases after every use. Eg; shirts, clothes, shoes, etc.

Considering the competitive nature of modern business, it is extremely difficult for businesses to cut through the clutter and get through to their customer base with information about their products. Those businesses that are able to effectively achieve this and create a relationship with their customers have a distinct edge on the competition. One of the most common ways that a business can achieve this is

business-to-consumer marketing, by which it directly communicates with its customer base and discovers its needs and wants.

Advertising campaigns are a big part of most business-to-consumer marketing plans. Businesses can utilize whatever media outlet that manages to reach out to its desired customers the best. For a small company that depends on local business, this might mean an ad in the local newspaper or perhaps a modest radio ad. Big businesses that target nationwide audiences may require national television campaigns that put their product in front of millions.

The Internet has become an important staple of many business-to-consumer marketing strategies. Building a website that presents a product in a favourable light, provides information on the business and its goals, and gives news about current and upcoming sales and promotions is practically a necessity for any business with big aspirations. Many of these websites even offer the customer a chance to buy products online. A business may be able to create its own site, or it can turn to professional Internet experts to do the job for it.

One of the goals of most business-to-consumer marketing efforts is to create positive branding for the business and its products or services. Branding is an attempt to create a positive association in the minds of consumers whenever they think about the business or its product. While advertising in the modern media and on the Internet may achieve this, old-fashioned marketing methods like in-store advertising and excellent customer service can create positive word of mouth among customers that can be as valuable as any advertising campaign.

Service Marketing

Stated simply, Services Marketing refers to the marketing of services as against tangible products. As already discussed, services are inherently intangible, are consumed simultaneously at the time of their production, cannot be stored, saved or resold once they have been used and service offerings are unique and cannot be exactly repeated even by the same service provider.

Marketing of services is a relatively new phenomenon in the domain of marketing, having gained in importance as a discipline only towards the end of the 20th century.

Services marketing first came to the fore in the 1980s when the debate started on whether marketing of services was significantly different from that of products so as to be classified as a separate discipline. Prior to this, services were considered just an aid to the production and marketing of goods and hence were not deemed as having separate relevance of their own.

The 1980s however saw a shift in this thinking. As the service sector started to grow in importance and emerged as a significant employer and contributor to the GDP, academics and marketing practitioners began to look at the marketing of services in a new light. Empirical research was conducted which brought to light the specific distinguishing characteristics of services.

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By the mid 1990s, Services Marketing was firmly entrenched as a significant sub discipline of marketing with its own empirical research and data and growing significance in the increasingly service sector dominated economies of the new millennium. New areas of study opened up in the field and were the subject of extensive empirical research giving rise to concepts such as—the product-service spectrum, relationship marketing, franchising of services, customer retention, etc.

Importance of Marketing of Services

Given the intangibility of services, marketing them becomes a particularly challenging and yet extremely important task.

- **A key differentiator:** Due to the increasing homogeneity in product offerings, the attendant services provided are emerging as a key differentiator in the mind of the consumers. Eg: In case of two fast food chains serving a similar product (Pizza Hut and Domino's), more than the product it is the service quality that distinguishes the two brands from each other. Hence, marketers can leverage on the service offering to differentiate themselves from the competition and attract consumers.
- **Importance of relationships:** Relationships are a key factor when it comes to the marketing of services. Since the product is intangible, a large part of the customers' buying decision will depend on the degree to which he trusts the seller. Hence, the need to listen to the needs of the customer and fulfill them through the appropriate service offering and build a long lasting relationship which would lead to repeat sales and positive word of mouth.
- **Customer retention:** Given today's highly competitive scenario where multiple providers are vying for a limited pool of customers, retaining customers is even more important than attracting new ones. Since services are usually generated and consumed at the same time, they actually involve the customer in service delivery process by taking into consideration his requirements and feedback. Thus they offer greater scope for customization according to customer requirements thus offering increased satisfaction leading to higher customer retention.

Case Study of Procter & Gamble: Marketing of Scope Mouthwash

Scope was introduced in 1967 by Procter & Gamble, is a green mint tasting mouthwash, and was positioned as a great tasting mouth refreshing brand that provided bad breath protection. Scope held 32% share of the Canadian market for 1990. In 1970 Scope became the market leader in Canada, with many competitors, such as Listerine mouthwash that was launched by Warner Lambert in 1977 and it was a direct competitor to Scope, it had nearly the same characteristics as Scope

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with a 12% of the market share during that time. But the major competitor for Scope was Plax, a brand by Pfizer Inc, which was launched in Canada in 1988 on a platform quite different from the traditional mouthwashes, and gained a 10% share since launched. Plax detergents were supposed to help loosen plaque to make brushing effective. Before the entry of Plax, brands in the mouth wash market were positioned around two major benefits that are fresh breath and killing germs, whereas Plax was positioned around a new benefit as a plaque fighter and claims Plax removes up to three times more plaque than just brushing alone.



In studying the current situation and preparing for a strategic plan, Gwen Hearst reviewed the available information and surveys for the mouthwash market and Scope showed that 75% of Canadian households use 1 or more mouthwash brands. The company's market research revealed that users could be segmented to "heavy" users that comprised 40% of all users and to "medium" users that comprised 45% of all users and to light users that comprised 15%. The company also made a research on why consumers use mouthwash, and the results were: consumer's basic hygiene, it gets rid of bad breath, it kills germs and many other reasons. Also surveys were conducted of mouthwash user's image of the major brands based on several attributes such as, reducing bad breath, killing germs, removing plaque and others. Plax achieved a strong image on removing plaques and healthier teeth and gums, whereas scope scored a weaker image on those attributes. In analyzing the Canadian mouthwash market share the data showed that Scope had the highest market share among all brands, but there was a big difference in the share held by Scope in food stores—42%, versus drug stores—27%. Competitive data were also collected for advertising expenditures, and the results were that most of the advertising expenditures were of Scope, Listerine and Plax accounting for 90% of all advertising. As for the retail prices, both Listerine and Plax had the highest prices among other brands in food stores, whereas Scope, Listerine and Listermint had the highest prices in drug stores. And in comparing Scope market share between Canada and USA, the results

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showed that Scope in Canada takes 33% of the market share, while USA Scope's market share was 21.6% that came after Listerine, where Listerine held 28% of the mouth wash market share in America.

After the introduction of Plax by Pfizer Inc whereby first P&G were loosing market share, and after studying the current situation and making several surveys and market researches, Hearst challenge was to the first problem which is to develop a strategy that ensures the continued profitability of Scope in face of competitive threats and especially by Plax that gained 10% share of the product category. So her specific task was to prepare a marketing plan for P&G mouthwash business for the next 3 years. The second problem is how will P&G maintain their profit and make sure that the Scope brand is always the first mouthwash product ranking among consumers? The mouthwash market is changing everyday with the emergence of new products and product features. As a result, P&G wants their Scope brand to be the first choice among consumers.

In the case of product development, PDD has demonstrated that Scope reduced plaque better than brushing alone because of the antibacterial ingredients in it. So the (Product Development) PDD has recently developed a new pre-brushing rinse product that performed as well as Plax but didn't work any better than Plax in removing plaque. The key benefit of this recently launched product is that it tastes better than Plax. However, PDD's preference was to not launch a new product, but instead to add plaque reduction claims to Scope. Since the basic argument was that it is better to protect the business that P&G was already in, than to launch a completely new entry. As for the case of sales, the sales people had noticed that Plax sales were increasing in the market place, and believed Scope should respond quickly, so they suggested that a brand must be unique and different enough from the competitors in order to be listed in the store shelves, or otherwise the category sales volume would spread over more units.

Market researchers suggested that Hearst look at other benefits or alternatives beyond just a "plaque reassurance on scope" or a "a better tasting pre-brushing rinse" Whereas the point of view from finance, on one hand Plax had a high price so a new rinse might be a profitable option, on the other hand they were concerned about the capital and marketing costs which would increase. The purchasing manager estimated that the cost of the new ingredients of a line extension would increase by $ 2.55 and the packaging would cost $0.30. As for the advertising agency it favoured a line extension, since adding any new claim for scope is a huge strategic shift for the brand that would confuse the consumer and decrease the market share, because relating two different ideas is very difficult (breath refreshment and good tasting) (removes plaque).

Hearst and the business team have two options, on one hand a line extension or new product positioned against Plax could be introduced into the market and on the other hand doing nothing and just looking at claims other than "breath"

instead of adding a new product. Launching a new product "new pre-brushing rinse" would cannibalize a part of Scope sales, also the delivery, marketing and capital costs of P&G will increase if a new rinse was launched and the user of Scope would be confused since he/she saw in the old scope a breath refreshment, taking into consideration that the new rinse is not any better than Plax in reducing plaque, but at the same time it may increase the market share of P&G and increase its profit. Whereas adding a new claim for Scope would not increase the volume of sales, but it could prevent current users of Scope to switch and it would stabilize the business, and even though the advertising agency thinks that it's hard to relate two different claims, it should try to relate them in order to make an effective advertising that includes both "breath" and "plaque" claims. Since adding plaque reduction to breathe refreshment and good tasting is an additional benefit that the Scope consumer can benefit from and it may attract the potential users that Scope aim at. Also P&G has to collect more information to see what the consumer needs and improve it within the same product; especially that it is based on a philosophy of satisfying the customer needs. Scope was positioned around two benefits that are refreshing breath and good taste, and it should stick to this position with other additional claims or benefits if it can, so it should not launch a new product that confuses the customers but stick to this position that it has in the market place and that is considered to be its competitive advantage. It's better to protect the business that P&G is already in for many years and just add a plaque claim, than launching a completely new entry that is not secured.

Questions

1. How will P&G develop a strategy that will ensure the continued profitability of Scope despite competition?
2. Should P&G take the risk of introducing the completely new product for 3 years plan? Discuss the advantage and risk involved.
3. How will P&G maintain their profit and make sure that the Scope brand is always the first mouthwash product ranking among consumers in Canada?

Source: *Scribd.com*

1.5 MARKETING MIX

Neil Borden in the year 1953 introduced the term marketing mix, an extension of the work done by one of his associates James Culliton in 1948.

Marketing mix means a mixture of several ideas and plans followed by a marketing representative to promote a particular product or brand. Several concepts and ideas combined together to formulate final strategies helpful in making a brand popular amongst the masses form marketing mix.

Elements of Marketing Mix

The elements of marketing mix are often called the four Ps of marketing.

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Product

Product refers to the actual, physical item that a company is trying to sell to the consumer. Marketers usually do not focus on product development as much as product presentation. Therefore, the marketing mix in this stage should consist of the name of the product, its packaging and how it will be differentiated from similar products in the store.

Key features include

- Goods manufactured by organizations for the end-users are called products.
- Products can be of two types: Tangible Product and Intangible Product (Services)
- An individual can see, touch and feel tangible products as compared to intangible products.
- A product in a market place is something which a seller sells to the buyers in exchange of money.

Price

The money which a buyer pays for a product is called as price of the product. The price of a product is indirectly proportional to its availability in the market. Lesser its availability, more would be its price and vice versa.

Retail stores which stock unique products (not available at any other store) quote a higher price from the buyers.

Place

Place refers to the location where the products are available and can be sold or purchased. Buyers can purchase products either from physical markets or from virtual markets. In a physical market, buyers and sellers can physically meet and interact with each other whereas in a virtual market buyers and sellers meet through Internet.

Promotion

Promotion refers to the various strategies and ideas implemented by the marketers to make the end-users aware of their brand. Promotion includes various techniques employed to promote and make a brand popular amongst the masses.

Promotion can be through any of the following ways:

- *Advertising*
    - Print media, television, radio are effective ways to entice customers and make them aware of the brand's existence.

- Billboards, hoardings, banners installed intelligently at strategic locations like heavy traffic areas, crossings, railway stations, bus stands attract the passing individuals towards a particular brand.
- Taglines also increase the recall value of the brand amongst the customers.

- *Word of mouth*
  - One satisfied customer brings ten more customers along with him whereas one dissatisfied customer takes away ten more customers. That's the importance of word of mouth. Positive word of mouth goes a long way in promoting brands amongst the customers.

Lately three more Ps have been added to the marketing mix. They are as follows:

- **People:** The individuals involved in the sale and purchase of products or services come under people.
- **Process:** Process includes the various mechanisms and procedures which help the product to finally reach its target market.
- **Physical Evidence:** With the help of physical evidence, a marketer tries to communicate the USPs and benefits of a product to the end users.

Four Cs of Marketing Mix

Now-a-days, organizations treat their customers like kings. In the current scenario, the four Cs have thus replaced the four Ps of marketing, making it a more customer-oriented model. Koichi Shimizu in the year 1973 proposed a four Cs classification.

- **Commodity:** (Replaces Products)
- **Cost:** (Replaces Price) involves manufacturing cost, buying cost and selling cost
- **Channel:** The various channels which help the product reach the target market.
- **Communication:** (Replaces Promotion)

Robert F. Lauterborn gave a modernized version of the four Cs model in the year 1993. According to him the four Cs of marketing are:

- Consumer
- Cost
- Convenience
- Communication

1.6 MARKETING BY 3PL AND 4PL SERVICES

Outsourcing is a viable option for companies. Businesses outsource for many and varied reasons—increase shareholder value, reduced costs, business transformation,

improve operations, overcome lack of internal capabilities, keep up with competitors, gain competitive advantage, improve capabilities, increase sales, improve service, reduce inventory, increase inventory velocity and turns, mitigate capital investment, improve cash flow, turn fixed costs into variable costs and other benefits, both tangible and intangible. To the maximum, and if done correctly, outsourcing and business process outsourcing can be used to create a viable virtual corporation.

3PLs have led the way in logistics outsourcing. Drawing on its core business, whether it be forwarding, trucking or warehousing, they moved into providing other services for customers. Creation of a 3PL presented a way for a commodity-service logistics provider to move into higher margin, bundled services.

Customers, anxious to reduce costs, want what 3PLs have to offer. The potential market opportunity for outsourced logistics service providers, whether domestic, international and/or global is huge.

But something has happened on the yellow-brick road. The reasons are varied, but the bottom line is many have failed at their own business transformation. Some 3PLs have not moved past their core commodity service to become true multi-service providers. Or international 3PLs have not understood how to provide domestic services; or domestic ones have not succeeded at venturing into international logistics services.

Others have failed to differentiate themselves against the competition. Certain 3PLs have not done a good job positioning and defining themselves in the marketplace. Or the parent company has not given them the resources, especially sales and sales leads, to penetrate even their existing customers. And, sundry have commoditized their 3PL service, as a result undoing the very purpose of their 3PL. These setbacks have slowed down the growth of some 3PLs in terms of both customer retention, especially, and new customers. Fragmentation of the 3PL sector reflects both the uncertainty of how 3PLs view themselves and the diversity of customer needs.

As a result, customers have had to compare apples and oranges in their RFP replies. Shippers share some accountability with an overemphasis on cost reduction as the key metric and without a clear definition of their requirements for services they need and how it will all work within their company. They looked for silver bullets and quick answers to complex needs.

Into the service vacuum created by 3PLs, the 4PL has emerged. Using a 4PL, fourth party logistics service provider, is different than the traditional 3PL. Much on 4PLs discusses technology. Technology is not the answer; it is part of the answer. It is one element of success of process, people and technology. 4PLs see the process and what is required to make it succeed.

4PLs combine process, technology and process to manage. The 4PL is a Business Process Outsourcing, BPO, and provider. This lead logistics provider will bring value and a reengineered approach to the customer's need. A 4PL is neutral and will manage the logistics process, regardless of what carriers, forwarders or warehouses are used. The 4PL can and will even manage 3PLs that a customer uses.

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Business Process Outsourcing (BPO) is traditional outsourcing and more. Outsourcing is often taking a set of work, tasks, responsibilities or functions and transferring them to an outside service provider. BPO involves that and more. A BPO service provider brings a different perspective, knowledge, experience and technology to the existing function and can and will work with the firm to reengineer it into an improved or new process. It is an outcome-based result, not just a pure cost reduction issue. The new process will interact or be integrated into the company in a way that can bring value, even bottom line and shareholder benefits, to the client.

A good 4PL will have the shipper perspective and experience in what he does and offers to prospective customers. That means a better understanding of the complexity of the customer's requirements, present viable solutions and to have customer satisfaction and retention.

The firm sees the relationship, not a chunk of freight. Instead the BPO provider seeks incentives and metrics to define the relationship and collaborates with each customer as to goals and outcomes. A 4PL wants to position itself as an extension of and part of its customer. This BPO provider recognizes the role of and need for information technology in managing the process.

A successful 4PL should have both the strategic and tactical capabilities. He should have real world logistics experience, especially on the "shipper"/customer side. Experience lets you see real issues and hidden agendas that are present. They also give you the ability to develop the process, people and technology that are needed because they have "been there, done that". They understand meeting the needs of their clients because they have managed and been responsible for logistics.

A 4PL, with real world supply chain experience, can present a way for customers to take control of their supply chains. They can structure the relationship and the process in a way that best meets the requirements of the customer, rather than the customer having to accept what the outsourcing provider has to offer.

When it comes to outsourcing, there are three questions and underlying issues. One, do you outsource a function versus outsource a process? 3PLs target the function. They want to handle containers/shipments/freight, not the transport management process, for example. The true need is the process, which is what the 4PL targets. Is there really a process in place or a series of standalone transactions? What is the present process? How does it work? Where does it fail? Where are there gaps? Where are there redundancies? The supply chain process crosses organizational lines. It runs horizontal in a vertical organization.

Two, do you outsource work/tasks or do you outsource managing? Much outsourcing is work related. Handle warehousing. Handle shipments. Not manage them. This matter is part of the next evolution of outsourcing and where the 3PL will have to migrate-and where the 4PL is already positioned.

Three, the outsource service provider, to truly meet the needs of his customer, should be neutral. 4PLs should be neutral if they are to manage the process. 3PLs, especially

those which are asset-based struggle to be neutral. 3PLs which seek to push shipments through their transport contracts or through their warehouses are not neutral.

Some 3PLs have not fully stepped up to meet the exact needs of customers. Some have become too focused on "managing" tasks, not processes and on serving the parent company's core business, and have missed opportunities to present value.

The 4PL opportunity exists because 3PLs failed to meet the real logistics/supply chain requirements of customers. There will not be a "model" (or cookie cutter) for the 4PL. After all, he knows to customize to the needs of each customer.

As a result, 4PLs have become alternatives for BPO. These new BPO logistics service providers enable firms to manage a critical part of their supply chain by providing visibility and integration across multiple enterprises. They manage with the three key elements of process, people and technology. Users of a 4PL can focus on core competencies and better manage and utilize company assets and resources, as to inventory and personnel.

1.6.1 Third Party Logistics Services and Providers

Third-party logistics (3 PLs) is the use of an outside company to perform all or part of the company's materials management and product distribution functions. The competitive advantage for any company is to focus on their core competencies, and let the 3PL firm handle those supply chain functions in which they specialize. In order to provide truly value-added services, 3PL firms must interact with customers to understand their needs and then adjust their offerings to meet them.

It is obvious that companies can parcel out numerous supply chain processes to entities that specialize in the efficient performance of those processes. Outsourcing a wide array of supply chain processes can generate greater value across the entire supply chain because specialized firms performing the selected processes enjoy a level of expertise and leverage that would not be available to manufacturers, wholesalers or retailers.

Transportation, warehousing, order processing and fulfillment, packaging, labeling, and bill payment are some of the key processes that can be outsourced to specialist firms called third-party logistics firms, or 3PLs. If these firms are efficient and effective, then the entire supply chain can benefit from improved capacity utilization, enhanced service levels and lower costs.

3PLs can provide technological and other flexibility to client companies. For instance, channel partners may need to change their technology for implementing quicker systems. Similarly, they may have changing needs for warehousing and transportation facilities. Such changing demands can be easily taken care of by third-party logistics companies.

Customers of 3PL companies look for four dimensions of value to be derived from outsourcing a process to a 3PL firm. These values include trust, information, capital utilization and cost control. The 3PLs customer orientation, level of specialization,

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asset ownership status and the price at which the service is offered form some of the main issues that a client will consider while selecting an appropriate service provider.

3PL companies must provide reliable services and solve channel problems so that smooth flow of goods and information can take place. This helps customers to trust 3PL companies.

3PLs can create value for their customers in the accuracy, quality and timeliness of the information that they provide their clients, different channel partners and to ultimate customers. This information can be electronically integrated into the customer's MIS for direct access.

3PLs can help customers reduce inventory and fixed assets, such as buildings and equipment. This leads to better utilization and financial returns on both working and fixed capital. Although capital utilization is important to 3PL customers, reduction of supply chain costs and sharing the savings with customers is probably the most visible (though not the most important) value.

Each supply chain will have firms with different levels of expertise and 3PL must customize their services according to their clients' expectations. Firms using 3PL services are seeking performance levels where the overall net benefits exceed the amount paid to the 3PL. improving service-related benefits also produces value, particularly when combined with the reduction of logistics costs. Many CEOs now see this value as critical to business survival.

An important contribution of the 3PL is providing the leverage that its customers cannot generate by themselves via the provision of information, cost reduction activities, service enhancements, or better asset utilization. In addition, by becoming more integrated into its customer's operations, the 3PL will be able to recognize and understand changes in the logistic needs of the customers.

An important disadvantage of third party logistics for companies is the loss of control faced by the company due to outsourcing a particular function. Engaging reliable 3PL service providers can offset this problem. Moreover, 3PL companies can assure their clients of their reliability by integrating their activities seamlessly with latter's operations. Painting clients' logos on transport vehicles etc. can signify close integration between the client and the 3PL service provider.

All channel partners must be successful if meaningful and lasting value is to be achieved. This requires open communication and collaboration. If any element in this supply chain relationship is neglected, the chain is broken and the value is lost.

1.6.2 Fourth Party Logistics

The term "fourth-party logistics provider" is a trademarked term owned by Andersen Consulting. It refers to the evolution in logistics from suppliers focused on warehousing and transportation (third-party logistics providers) to suppliers offering a more integrated and value added solution. Among other services, fourth-

party logistics providers include supply chain management and solutions, change management capabilities, and value added services as part of their offering. A 4PL company delivers a comprehensive supply chain solution and adds value by influencing the entire supply chain.

A 4PL leverages a full range of service providers (3PLs, IT providers, contract logistics providers, call centers, etc.) along with the capabilities of the client and its supply chain partners. The 4PL acts as a single point of interface with the client organization and provides the management of multiple service providers through a teaming partnership or an alliance. A 4PL adds value to the entire supply chain, through reinvention, transformation, and execution.

Reinvention implies synchronization of supply chain planning and execution activities across all supply chain participants. This is achieved by:

- Leveraging traditional supply chain management skills
- Aligning business strategy with supply chain strategy
- Creatively redesigning and integrating the supply chains of the participants.

Transformation efforts focus on specific supply chain functions including sales and operations planning, distribution management, procurement strategy, customer support, and supply chain technology. This is done by:

- Leveraging strategic thinking and analysis
- Process redesign, organizational change management
- Technology to integrate the client's supply chain activities and processes.

Execution of the supply chain integration strategy leads to increased revenue, operating cost reduction, working capital reduction, and fixed capital reduction while traditional approaches tend to focus only on operating cost reduction and asset transfer.

Revenue growth and customer satisfaction are driven by enhanced product quality and product availability due to the elimination of stock-outs and 'ship-complete'. Dramatic customer service improvements can be attained as the 4PL focuses on the entire supply chain and is not limited to increasing efficiencies associated with warehousing and lowest-cost transportation. Operating-cost reductions are driven through operational efficiencies, process enhancements and procurement savings. Savings are achieved through the complete outsourcing of the supply chain function instead of only a few components as in the case of a 3PL solution. Savings are also achieved due to the economies of scale that accrue due to the large size of the operations involved in the entire service chain.

Synchronization of supply chain activities by channel partners leads to operating-cost reductions and a lower cost of goods sold, due to integration of processes, and improved planning and execution of supply chain activities.

Technology is proactively used to manage order and inventory movement throughout the pipeline, thereby minimizing the amount of inventory required, and increases item availability to reduce cycle times. Thus, working-capital reductions can be realized

through inventory reductions and reduced "order to cash" cycle times. Fixed-capital reductions result from capital asset transfer and enhanced asset utilization. 4PLs can undertake the ownership of physical assets, thus freeing up assets held by various companies that form part of the supply chain. This allows the client organization to invest in its core competencies like research and design, product development, marketing and sales, etc.

A 4PL can use any of the three operating models to deliver supply chain solutions.

- A partnership can be forged between the 4PL organization and a third-party service provider to market supply-chain solutions that capitalize on the capabilities and market reach of both organizations. The 4PL provides a broad range of services to the 3PL including technology, supply chain strategy skills, capability to go to market, and program management expertise.
- The 4PL can operate and manage a comprehensive supply chain solution for a single client. This arrangement encompasses the resources, capabilities, and technology of the 4PL and complementary service providers to provide a comprehensive integrated supply chain solution that delivers value throughout a single client organization's supply chain components.
- As a supply chain innovator, a 4PL organization can develop and run a supply chain solution for multiple industry players with a focus on synchronization and collaboration. The formation of industry solutions provides the greatest benefits; however, this model is complex and can challenge even the most competent organizations.

The 4PL service provider needs to possess a comprehensive set of skills to effectively deliver an integrated supply-chain solution. These include:

- Availability of a large body of trained supply chain professionals, global capabilities, reach and resources.
- Ability to manage multiple service providers.
- Ability to transition clients' employees and other assets smoothly to the new 4PL environment.
- Strong relationship and teaming skills.
- Delivery of world-class supply chain strategy formulation and business process redesign.
- Strength in integrating supply chain technologies and outsourcing capabilities.
- Understanding of organizational change issues.

Fourth Party Logistics is the next generation of supply chain outsourcing. Supply chain activities are information-rich, complex and increasingly global. At the same time, technology and e-enabled capabilities are racing ahead. To enable a firm to capture all the benefits of supply chain collaboration and synchronization, a new generation of integration must be deployed, which is currently beyond the capabilities of traditional outsourcing methods.

Check Your Progress

Fill in the Blanks

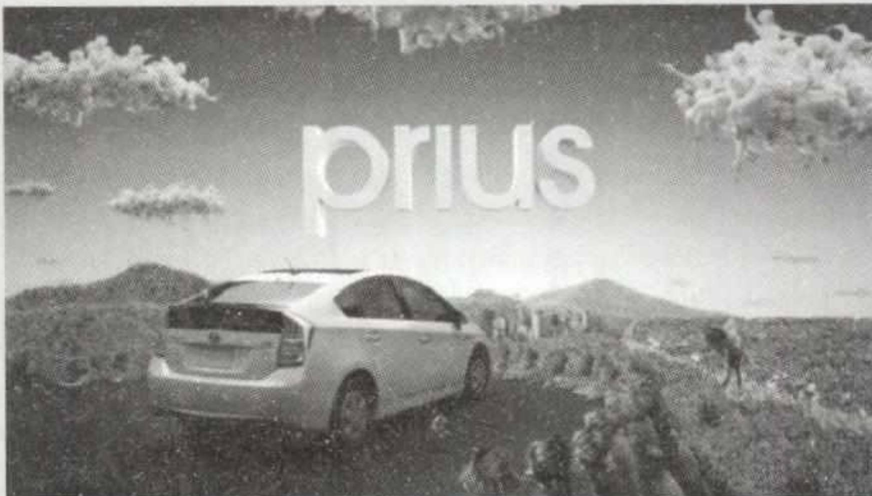
4. An .... involves one business dealing goods or services to another business instead of a consumer base.
5. .... refers to the transaction of goods and services between organizations and potential customers.
6. .... means a mixture of several ideas and plans followed by a marketing representative to promote a particular product or brand.
7. .... is the use of an outside company to perform all or part of the company's materials management and product distribution functions.

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Case Study: Toyota Prius Marketing Strategies

Toyota manufactures cars, which has a wide coverage from economic minibus to luxurious cars, SUV. The brand on sell includes Crown, Reiz, Vios, Corolla, Coaster and Prius. And Prius is the brand or car that Toyota has made a significant success in American market. It is a hybrid vehicle. What are the characteristics of it?

Hybrid vehicles have both a gas engine and an electric motor. When starting up or at very low speeds (under 15 mph), the auto runs on the electric motor. At roughly 15 mph, the gas engine kicks in. this means that the auto gets power from only the battery at low speeds, and from both the gas engine and electric motor during heavy acceleration. When starting up and operating at low speed speeds, the auto does not make noise, which seems eerie to some drivers and to pedestrians who don't hear it coming.



Then, have a look back at Toyota's history to find new Toyota has made its way to America. In 1957, Toyota exported to America at the first time and established the selling company. In 1984, a joint venture was established with General Motor. Co. And in 1997, Prius was first in production and had a launch in America. It was such a great success that Toyota conquered the American market. To dig into the reasons, it was largely contributed to the micro and macro environment at that time.

First, let's have a look at micro-environments. We all know that Americans love cars so much. And due to the oil crisis, Americans changed the need structure for cars, converting their needs to oil saving cars. While American car manufacturers lacked producing such cars, then Toyota caught that opportunity and tried to occupy this niche market.

Toyota's competitor at that time was Honda. It started to develop the hybrid car almost at the same time as us. It introduced the insight. Afterwards, but It didn't

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sell well because of its poor design. As a result, Toyota got the first place in America. However, Toyota had no competitors in local market at that time. GE and Ford were followers later.

In the macro environment there are many young men who love technique and pursue new technology products. And they are also highly educated and so have a strong environmental protect spirit. And Prius is just the combination of the concepts of environment and technology. Other factors are natural resources and pollution. Before the environment problem and energy crisis come into people's attentions, Toyota began to research and develop the hybrid cars with a long-term view, which was designed to reduce oil consumption and gas emissions.

In a country where everyone was ecstatic when governments raised speed limits above 55 mph, why would the Prius be so successful? For the first model, the answer lies in Toyota's clever marketing campaign. To begin with, it wasn't aimed at the mass market. Instead, Toyota thought that the first hybrid buyers would be "techies" and early adopters (people who are highly likely to buy something just because it's new). The company was right. Once Toyota identified the target market, it was able to educate the right consumers two years before introduction. The company established a Web site to distribute information and sent a set of 3-brochures to 40,000 likely buyers just before the introduction. The press was also excited about the technology. Auto magazines, and even general interest media, ran articles describing, enthusing, or belittling the hybrids. All of this coverage helped Toyota sell 1,800 cars immediately.

In all, Toyota spent $15 million in 1997 touting the Prius. There were print ads in magazines such as Newsweek and Vanity Fair, but the bulk of the campaign was in television advertising on channels such as Discovery, the History Channel, the Learning Channel, and MSNBC. These ads helped to position Toyota as an "environmentally concerned" company and more subtly stressed the technology aspect of the car. After all, Americans love technology and are quick adopters of it.

After introduction, the ads appealed more to emotion with taglines such as "When it sees red, it charges"—a reference to the recharging of the battery at stoplights. Such ads are based on ambiguity where the headline attracts attention because its meaning is not clear. The consumer must process the information in the ad in order to interpret it. The result is higher ad impact and longer ad recall. Toyota also took advantage of the environmental appeal by sending out green seed cars shaped like Toyota's logo to prospective buyers on Earth Day. They also wrapped some Priuses in green and gave away cars at Earth Day events.

Much of the Prius's success is based on correct identification of the target market. Many early purchasers were attracted by the technology, began to modify cars, and shared their experiences through chat rooms such as Priusenvy.com.

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Even though the Internet played a major part in the Prius launch, Toyota does not sell the car from its Web site. Buyers go to www.prius.toyota.com online to look at colours and decide on options such as CD players and floor mats. After that, the dealers get involved, but it takes specially trained salespeople to explain and promote the Prius. Therefore, Toyota is planning to launch an educational campaign aimed at salespeople and consumers.

Strategies after the year 2004

Enlarge the market

1. **Launch a new product:** As more and more people accepted the new hybrid vehicles, Toyota decided to enlarge the market, from the market of techies and adopters to a wider market. In order to reach this purpose, Toyota launched a new Prius. The new Prius improved styling, performance and gas efficiency. It is a sleek, Asian-inspired design including seven colours. Inside the Prius, there is a stubby switch to engage reverse or drive and a push button that turns everything on. A 7-inch energy monitor touch screen displays fuel consumption, outside temperature, and battery charge level. It also explains whether you're running on gas, electricity, regenerated energy, or a combination of these. There are also screens to show how much electricity you have stored and to arrange your air conditioning, audio, and satellite navigation system. The interior is roomy and practical, with plenty of rear legroom. There are many storage space cubbyholes and shelves in the front, as well as a deep dashboard which leaves ample space for maps, books, and even your lunch. The CD player holders six discs.
2. **Large promotion:** To launch the new Pirus, Toyota spent more than $40 million dollars spread over media in more consumer-oriented magazines and TV. The promotion is successful, as Prius sales are up 120 percent and have reached 28000 units in 2004.
3. **Relatively moderate price:** Because of the "environmentally friendly" aspects of the car, there are government breaks on the car. The federal government gives a $1500 tax deduction, and some states allow single-occupant hybrids in HOV (High Occupancy Vehicle) lanes. Although the federal deduction will be phased out in the near future, other bills are pending to extend the tax break based on greater fuel efficiency and lower emissions from vehicles. So compared to SUV cars there is a relative low cost because of the tax relief, and the price is moderate.
4. **Increased production from external incentives:** Because of the rising gasoline prices, the demand for Priuses increased. Sales of full-sized SUVs such as the Ford Excursion and Expedition and the Lincoln Navigator suffered a sharp drop. The increased demand can be seem from the long for 6 months

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or more waiting lists. Spots on dealers' waiting lists were even being auctioned on E-bay for $500. Toyota increased monthly production of Prius from 7500 to 15000, but just alleviated the shortages. During this time, the reputation of Prius increased and the sales increased a lot. However, though the excess demand for Prius, Toyota had no plans at that time to start production at a second plant, perhaps because he couldn't predict how long this high demand would last. The new Prius made Hybrid familiar to the common consumers, the target of enlarging the market has reached. However, as the excess benefit exists in this market, there must be competitors coming in, and because of the internal learning curve. What strategies will Toyota make to offend these competitors?

Bring Hybrid to a luxury car level

After Toyota's success in hybrid car, many competitors came up. Honda is another Japanese automaker. Ford began production of a hybrid model of the Escape SUV, giving consumers a choice of a hybrid or regular model. To promote the hybrid, Ford began an environmental print campaign built around mileage, emissions and other environmental concerns. GM is following the similar strategy, putting hybrid technology in vehicles that use the most gas. It has also developed a hybrid model of its Silverado truck.

Although so many competitors come up, they are followers. Toyota is still the market leader because of its more mature technology than other automakers and the reputation it made and because Toyota is the first to come into this niche market. In order to keep its advantages Toyota keeps on updating its technology and its Lexus division introduced a Lexus SUV hybrid, moving hybrids up to the luxury car level.

Thus, Toyota has a big jump on US automakers who have only dabbled in this market at that time. So hybrid has taken a seat from medium car level to the luxury car level and until now Toyota is updating the hybrid technology and improving the performance of the hybrid car. Now the newest model is 2008 Prius model. The effort of Toyota makes common consumers remember Toyota every time someone mentions hybrid.

Now in the car market, most people still like stockcar racing, and SUV vehicle is still appealing to people's taste. But as the gasoline price increases these years and people's environmental protection awareness enhances, the hybrid car which brings fuel efficiency and low emissions will become more and more popular in the future. And the competition will become more and more fierce. So Toyota should keep on producing hybrid cars and updating technology.

When a new version of Prius which is improved from the old one is launched, Toyota also considers a lot of macro- and micro-environment factors to establish their marketing strategy. Micro-environment factors usually contain the company,

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suppliers, marketing intermediaries, customers, competitors and publics, while macro-environment factors usually contain demographic, economic, natural, technological, political, and cultural environment factors. As for different companies, these factors have various levels of influence. And Toyota also has some particular factors which are more important and need to be closely monitored. We discuss such factors in detail in the following paragraphs.

Micro-environmental factors

1. **The company:** The slogan and concept of Toyota express explicitly that Toyota is always pursuing the product which is environment-friendly and fuel efficient. As the previous version, the new version is also continued to use this concept and the improved Prius is in accordance with the company's image perfectly.
2. **Suppliers:** There are not some apparent elements changed from the earlier period, so this factor does not contribute much to the decision-making about marketing strategy. Marketing intermediaries—compared with 1997, the intermediaries are more familiar with the product and can sell it more efficiently. However, this is also not a very important factor since it does not change too much.
3. **Customers:** The customers are more familiar with such new environment-friendly product and accept the concept. From the past promotion and the practical driving experience of customer, they form a quite stable and growing market for the new version of Prius. This factor is more beneficial than the prior years when the product was first introduced to the market.
4. **Competitors:** Changes in this factor are quite important to the strategy decision. There arise some competitors in the market, such as Honda, Ford, GM. So the competition in this market is fiercer than before. Toyota should monitor its competitors closely and try to predict their marketing strategy and establish the reaction plan. Public's—until now, it seems that the public always appreciate Toyota's concept since Toyota emphasizes on the new technology and environmental protection idea which is in the interest of the public.

Macro-environmental factors

1. **Demographic environment:** There are more educated people nowadays and this trend will continue in the foreseeable future. It is a factor that has no changes compared to prior years.
2. **Economic environment:** This summer, the price of gas has climbed to the record high level. And the experts predicted that such price rise is not temporary but permanent. It is likely that the price will rise further, so the

demand of the hybrid car which can use fuel more efficiently is growing. Toyota's new product can meet such growing demand exactly. Such changing factor certainly contributes a lot to the decision-making process of marketing strategy.

3. **Natural environment:** Since the resource is limited, it enhances the need of the public to find substitute resource and the need to use the fuel more efficiently. So Toyota's product suits the need of the times well.
4. **Technological environment:** Toyota has already been the top producer of the hybrid cars and although the other producers are providing the similar products, their technological ability is still far behind Toyota. However, Toyota needs to further enhance their leading position and keep up to date about any technology changes.
5. **Political environment:** This is the most important factor in the macro-environment. The government has already given the tax incentives to the people who purchase the hybrid car that they can enjoy the tax deduction of $1500 when they buy it. Although such benefit will be out of date recently, there are more other tax incentives which are under discussion and probably to be approved by the government in the near future. Furthermore, some states even provide the exclusive lane for the hybrid car in some highway. All these favourable government policies give more incentive for the public to purchase hybrid cars. So Toyota should take advantage of this factor.
6. **Cultural environment:** Cultural factors are not changed so much and generally the culture of the public shows that the hybrid concept is well accepted.

Source: *Docstoc.com*

1.7 SUMMARY

- Marketing is the art of developing, advertising and distributing goods and services to consumers as well as business. However, marketing is not just limited to goods and services, it is extended to everything from places to ideas and in between.
- The marketing environment consists of all the actors and forces outside marketing that affect the marketing management's ability to develop and maintain successful relationships with its target customers.
- An industrial market involves one business dealing goods or services to another business instead of a consumer base. Also known as the business-to-business market, this market encompasses three distinct variations, including businesses selling goods, businesses selling raw materials and businesses selling services.

- Consumer marketing refers to the transaction of goods and services between organizations and potential customers. In consumer markets, products are sold to consumers either for their own use or use by their family members.
- Services marketing refers to the marketing of services as against tangible products.
- Marketing mix means a mixture of several ideas and plans followed by a marketing representative to promote a particular product or brand is called marketing mix. Several concepts and ideas combined together to formulate final strategies helpful in making a brand popular amongst the masses form marketing mix.
- Third-party logistics (3 PLs) is the use of an outside company to perform all or part of the company's materials management and product distribution functions.
- The term "fourth-party logistics provider" is a trademarked term owned by Andersen Consulting. It refers to the evolution in logistics from suppliers focused on warehousing and transportation (third-party logistics providers) to suppliers offering a more integrated and value-added solution.

1.8 KEY TERMS

- **Marketing:** Marketing is the art of developing, advertising and distributing goods and services to consumers as well as business.
- **Marketing environment:** The marketing environment consists of all the actors and forces outside marketing that affect the marketing management's ability to develop and maintain successful relationships with its target customers.
- **Demography:** Demography is the study of human populations in terms of size, density, location, age, sex, race, occupation, and other statistics.
- **Marketing intermediaries:** Marketing intermediaries are firms that help the company to promote, sell, and distribute its goods to final buyers.
- **Industrial market:** An industrial market involves one business dealing in goods or services to another business instead of a consumer base.
- **Consumer marketing:** Consumer marketing refers to the transaction of goods and services between organizations and potential customers.
- **Services marketing:** Services marketing refers to the marketing of services as against tangible products.
- **Marketing mix:** Marketing mix means a mixture of several ideas and plans followed by a marketing representative to promote a particular product or brand is called marketing mix.

- **Third-party logistics (3 PLs):** Third-party logistics (3 PLs) is the use of an outside company to perform all or part of the company's materials management and product distribution functions.
- **Fourth Party Logistics (4PLs):** It refers to the evolution in logistics from suppliers focused on warehousing and transportation (third-party logistics providers) to suppliers offering a more integrated and value-added solution.

1.9 ANSWERS TO 'CHECK YOUR PROGRESS'

1. Marketing is a general term used to describe all the various activities involved in transferring goods and services from producers to consumers.
2. The marketing environment consists of all the actors and forces outside marketing that affect the marketing management's ability to develop and maintain successful relationships with its target customers.
3. Marketing intermediaries are firms that help the company to promote, sell, and distribute its goods to final buyers.
4. Industrial market
5. Consumer marketing
6. Marketing mix
7. Third-party logistics (3 PLs)

1.10 QUESTIONS AND EXERCISES

Short Answer Questions

1. Define marketing.
2. What do you mean by macro environment?
3. What is micro environment?
4. What are the key advantages and disadvantages of commodity approach to marketing?
5. What is industrial marketing?
6. Define marketing mix.
7. What are the 4 Cs of marketing mix?
8. What do you mean 3PL?
9. What is the basic difference between the 3PL and 4PL logistics services?

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Long Answer Questions

1. Discuss the nature and scope of marketing environment and system.
2. What are the key approaches to the study of marketing? Critically evaluate all the approaches.
3. Discuss the concept of industrial, consumer and service marketing.
4. Define marketing mix. What are the key elements of marketing mix?
5. Discuss the concept of 3PL and 4PL services in marketing.
6. Discuss the major elements of micro environment.
7. What are the key elements of micro environment?
8. Discuss the importance of marketing of services.

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UNIT 2 USER BEHAVIOUR AND NETWORKING

Structure

2.0 INTRODUCTION

The core function of the marketing department is to understand and satisfy consumer needs, wants and desires. Consumer behaviour captures all the aspects of purchase, utility and disposal of products and services. Groups and organizations are considered within the framework of the consumer. Failing to understand consumer behaviour is the recipe for disaster as some companies have found it the hard way. For example, Walmart launched operations in Latin-America with store design replicating that of US markets. However, Latin America consumer differs to US consumer in every aspect. Wal-Mart suffered consequences and failed to create impact.

Social, cultural, individual and emotional forces play a big part in defining consumer buying behaviour. Cultural, sub-culture and social class play an important is finalizing consumer behaviour. For example, consumer growing up in US is exposed to individualism, freedom, achievement, choice, etc. On sub-culture level influence of religion, race, geographic location and ethnicity define consumer behaviour. Social class consists of consumer with the same level of income, education, taste, feeling of superiority and inferiority. Over time consumer can move from one social level to another.

Culture alone cannot define consumer behaviour; social forces also play an important role. Social forces consist of family, friends, peer groups, status and role in society. Groups which have direct or indirect influence on consumers are referred to as reference groups. Primary groups consist of friends, family and peers with whom consumer has direct contact for considerable time. Secondary groups are association where interaction is at formal level and time devoted is less.

Consumer buying behaviour is influenced by individual's own personality traits. These personality traits do not remain the same but change with the life cycle. The choice of occupation and corresponding income level also play a part in determining consumer behaviour. A doctor and software engineer both would have different buying pattern in apparel, food, automobile, etc. Consumers from similar background, occupation and income levels may show a different life style pattern.

An individual buying behaviour is influenced by motivation, perception, learning, beliefs and attitude. These factors affect consumer at a psychological level and determine her overall buying behaviour. Maslow's hierarchy, Herzberg Theory and Freud Theory try and explain people's different motivational level in undertaking a buying decision. Perception is what consumer understands about a product through their senses. Marketers have to pay attention to consumer's perception about a brand rather than true offering of the product. Learning comes from experience; consumer may respond to stimuli and purchase a product. A favourable purchase will generate positive experience resulting in pleasant learning. Belief is the pre-conceived notion a consumer has towards a brand. It is kind of influence a brand exerts on consumer. For example, there is a strong belief product coming through German engineering are quality products. Companies may take advantage of this belief and route their production through Germany.

Companies need to think beyond buying behaviour and analyze the actual buying process. Complex buying behaviour requires high involvement of buyers, as it is infrequent in nature, expensive, and there are significant differences among the available choice, e.g., automobile. Grocery buying is referred to as habitual buying, which requires less involvement as few differences among brands, frequent and inexpensive. Buying process involves purchase need, decision makers, information search, alternatives evaluation, purchase decision and post purchase behaviour. Companies try hard to understand consumer experience and expectation at every stage of buying process. Marketers need to figure the right combinations which will initiate purchase need e.g. marketing programs. Companies should ensure consumers have readily available information to take the decision e.g. internet, friends. Consumers evaluate alternatives based on their brand perception and belief. Companies need to work hard to develop products, which match this perception and belief every time. Final purchase decision is taken looking at other's perception of the brand. Post purchase if expectations meet actual performance, consumer is satisfied and more likely to repurchase or recommend the brand to others.

Consumer markets are defined by various geographical, social and cultural factors. Furthermore, consumer behaviour is influenced by psychological, personality, reference groups and demographic reasons. Finally actual buying process involves complex process and cycle. Companies have to keep a tab on all three factors in formulating strategy.

2.1 UNIT OBJECTIVES

After going through this unit, you will be able to:

- Describe the user decision-making process
- Explain the meaning of the terms concentrated marketing, differentiated and undifferentiated marketing
- Discuss the meaning of service positioning and networking.

2.2 USER DECISION-MAKING PROCESS

The consumer's decision to purchase or reject a product or service is the moment of final truth for the marketer. It signifies the marketing strategy has been wise, insightful and effective, whether it was poorly planned and missed the mark. Marketers are, therefore, interested in the consumer decision-making process by which a consumer selects an alternative amongst the lot available. The decision not to buy is also an alternative.

To understand the complete process of consumer decision-making, let us first go through the following example:

Tim went to a nearby retail store to buy a laptop for himself. The store manager showed him all the latest models and after few rounds of negotiations, Tim immediately selected one for himself.

In the above example Tim is the consumer and the laptop is the product which Tim wanted to purchase for his end-use.

Why do you think Tim went to the nearby store to purchase a new laptop?

The answer is very simple. Tim needed a laptop. In other words it was actually Tim's need to buy a laptop which took him to the store.

The need to buy a laptop can be due to any of the following reasons:

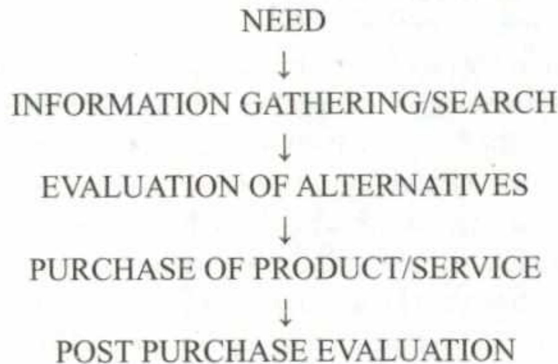
- His old laptop was giving him problems
- He wanted a new laptop to check his personal mails at home
- He wanted to gift a new laptop to his wife
- He needed a new laptop to start his own business

The store manager showed Tim all the samples available with him and explained him the features and specifications of each model. This is called information. Tim before

buying the laptop checked few other options as well. The information can come from various other sources such as newspapers, websites, magazines, advertisements, billboards, etc.

This explains the consumer buying decision process.

A consumer goes through several stages before purchasing a product or service.



Step 1: Need is the most important factor which leads to buying of products and services. Need infact is the catalyst which triggers the buying decision of individuals.

An individual who buys cold drink or a bottle of mineral water identifies his/her need as thirst. However, in such cases steps such as information search and evaluation of alternatives are generally missing. These two steps are important when an individual purchases expensive products/services such as laptop, cars, mobile phones and so on.

Step 2: When an individual recognizes his need for a particular product/service he tries to gather as much information as he can.

An individual can acquire information through any of the following sources:

- *Personal Sources:* He might discuss his need with his friends, family members, co-workers and other acquaintances.
- *Commercial sources:* Advertisements, sales people (in Tim's case it was the store manager), Packaging of a particular product in many cases prompt individuals to buy the same, Displays (Props, Mannequins, etc.)
- *Public sources:* Newspaper, radio, magazine
- *Experiential sources:* Individual's own experience, prior handling of a particular product (Tim would definitely purchase a Dell laptop again if he had already used one).

Step 3: The next step is to evaluate the various alternatives available in the market. An individual after gathering relevant information tries to choose the best option available as per his need, taste and pocket.

Step 4: After going through all the above stages, customer finally purchases the product.

Step 5: The purchase of the product is followed by post purchase evaluation. Post purchase evaluation refers to a customer's analysis whether the product was useful to him or not, whether the product fulfilled his need or not?

2.3 MARKET SEGMENTATION

Market segmentation is the process of dividing the total market for a good or service into several smaller, internally homogeneous groups. Members of each group are similar with respect to the factors that influence demand. Therefore, to stay focused rather than scattering their marketing resources, more marketers are using market segmentation. In this approach, which falls midway between mass marketing and individual marketing, each segment's buyers are assumed to be quite similar in wants and needs, yet no two buyers are really alike. To use this technique, a company must understand both the levels and the patterns of market segmentation.

The following are the key features of market segmentation:

- Market segmentation is a marketing concept which divides the complete market set up into smaller subsets comprising of consumers with a similar taste, demand and preference.
- A market segment is a small unit within a large market comprising of like-minded individuals.
- One market segment is totally distinct from the other segment.
- A market segment comprises of individuals who think on the same lines and have similar interests.
- The individuals from the same segment respond in a similar way to the fluctuations in the market.

Basis of Market Segmentation

Gender

The marketers divide the market into smaller segments based on gender. Both men and women have different interests and preferences, and thus the need for segmentation.

Organizations need to have different marketing strategies for men which would obviously not work in case of females.

A woman would not purchase a product meant for males and vice versa.

The segmentation of the market as per the gender is important in many industries like cosmetics, footwear, jewellery and apparel industries.

Age Group

Division on the basis of age group of the target audience is also one of the ways of market segmentation.

The products and marketing strategies for teenagers would obviously be different than kids.

- Age group (0–10 years)—Toys, Nappies, Baby Food, Prams
- Age Group (10–20 years)—Toys, Apparels, Books, School Bags
- Age group (20 years and above)—Cosmetics, Anti-Ageing Products, Magazines, Apparels and so on

Income

Marketers divide the consumers into small segments as per their income. Individuals are classified into segments according to their monthly earnings.

The three categories are:

- High income Group
- Mid Income Group
- Low Income Group

Stores catering to the higher income group would have different range of products and strategies as compared to stores which target the lower income group.

Pantaloon, Carrefour, Shopper's Stop target the high income group as compared to Vishal Retail, Reliance Retail or Big Bazaar who cater to the individuals belonging to the lower income segment.

Marital Status

Market segmentation can also be as per the marital status of the individuals. Travel agencies would not have similar holiday packages for bachelors and married couples.

Occupation

Office goers would have different needs as compared to school / college students.

A beach house shirt or a funky T Shirt would have no takers in a Zodiac Store as it caters specifically to the professionals.

Types of Market Segmentation

- **Psychographic segmentation:** The basis of such segmentation is the life style of the individuals. The individual's attitude, interest, value help the marketers to classify them into small groups.
- **Behaviouralistic segmentation:** The loyalties of the customers towards a particular brand help the marketers to classify them into smaller groups, each group comprising of individuals loyal towards a particular brand.
- **Geographic segmentation:** Geographic segmentation refers to the classification of market into various geographical areas. A marketer can't have similar strategies for individuals living at different places.

Nestle promotes Nescafe all through the year in cold states of the country as compared to places which have well defined summer and winter season.

McDonald's in India does not sell beef products as it is strictly against the religious beliefs of the countrymen, whereas McDonald's in US freely sells and promotes beef products.

Need for Market Segmentation

Not all individuals have similar needs. A male and a female would have varied interests and liking towards different products. A kid would not require something which an adult needs. A school kid would have a different requirement than an office goer. Market segmentation helps the marketers to bring together individuals with similar choices and interests on a common platform.

- Market segmentation helps the marketers to devise appropriate marketing strategies and promotional schemes according to the tastes of the individuals of a particular market segment. A male model would look out of place in an advertisement promoting female products. The marketers must be able to relate their products to the target segments.
- Market segmentation helps the marketers to understand the needs of the target audience and adopt specific marketing plans accordingly. Organizations can adopt a more focussed approach as a result of market segmentation.
- Market segmentation also gives the customers a clear view of what to buy and what not to buy. A Rado or Omega watch would have no takers amongst the lower income group as they cater to the premium segment. College students seldom go to a Zodiac or Van Heusen store as the merchandise offered by these stores are meant mostly for the professionals. Individuals from the lower income group never use a Blackberry. In simpler words, the segmentation process goes a long way in influencing the buying decision of the consumers.

An individual with low income would obviously prefer a Nano or Alto instead of Mercedes or BMW.

- Market segmentation helps the organizations to target the right product to the right customers at the right time. Geographical segmentation classifies consumers according to their locations. A grocery store in colder states of the country would stock coffee all through the year as compared to places which have defined winter and summer seasons.
- Segmentation helps the organizations to know and understand their customers better. Organizations can now reach a wider audience and promote their products more effectively. It helps the organizations to concentrate their hard work on the target audience and get suitable results.

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Case Study on Apple's IPod: The Marketing of an Idea Project

Apple's iPod has taken the world by storm. Nearly ubiquitous, it has changed not only the way people listen to music, but it has transformed its parent company Apple into an entertainment giant. In order to understand how this change came about, we'll take a look at Apple's ongoing efforts to make iPod synonymous with hip. We'll also discuss exactly what customers are buying when they buy an iPod, and we will take a deep look at several aspects of Apple's marketing of this exciting new product, from the iPod itself, Apple's strategic planning, possible research findings that supported their approach, segmentation strategies that may have been employed and why, as well as pricing strategy across these segments. Last we'll discuss communications, promotion and advertising, as well as an interesting shift in retailing that the iPod has enabled. Throughout, we'll tie back to the Apple brand to dig deep into the notion that iPod's stunning success stems from it being specifically not an MP3 player. Like Magritte's surrealist painting of a pipe with the caption Ceci n'est pas une pipe (This is not a pipe), the iPod is not merely an MP3 player. It is a symbol which encompasses many grand ideas; ideas that involve world change, and how cool we all can be if we are part of that change. Apple's careful and deliberate exploitation of this concept, comprising an entire marketing ecosystem which nurtures that idea will be the subject of this paper. On January 9th, 2007, Steve Jobs, renowned CEO of Apple, announced that the company which he founded would no longer be known as Apple Computer, Inc. Its new name would just be Apple, Inc. This seemingly trivial change represents a fundamental shift with deep implications that were the result of many changes Apple had engineered over the past six or seven years; transitioning itself from a computer company slugging it out for a meagre share of an increasingly competitive hardware and software market, to a business that promoted an entirely new concept: the digital lifestyle. Before we dig down into what this radical shift entailed, both for the company and the world, let's take a quick look at the history of Apple, a company already firmly rooted in several notions that allowed this transition to make sense. Apple made a name for itself by being instrumental in ushering in the home PC revolution. For millions of its aficionados, Apple was single-handedly responsible for this revolution by virtue of the fact that it created radical new features such as windows-type graphical user interfaces, pull-down menus and simplified computer control via the mouse. The history of the PC revolution is a history of war between Apple; a number of losers that no one remembers any more, and arch rival Microsoft with its dubious counter claims of having pioneered the concept of Windows. Frustrating to anyone who owned a Mac back in the 1980s is the knowledge that Apple did indeed pioneer the windows metaphor as a distinct feature of its operating system. This was at a time when Microsoft users were still struggling

with text-based DOS commands, and yet the commercial success of Microsoft has served to rewrite history to some degree. Battles ensued over the years, but no matter whose side you were on, by the late 90s it was clear that Apple was not gaining any ground whatsoever as a computer and software manufacturer. In fact due to many external events, Apple's position was in clear threat.



First, huge numbers of consumers, particularly the business community, clearly preferred Microsoft. Apple's market share was tiny compared to the Redmond behemoth. However. Apple users were an ardent group of graphic designers, college students, and members of the urban hip known as The Digerati. This was a group of consumers who saw themselves as different from the mainstream; definitely cooler, and part of a community of like-minded people. They knew they paid more for to breathe this rarified air, but they didn't seem to mind. In these segments, Apple's market share was relatively solid, even if it was comparatively small. Even so, by the end of 2000, with a downturn in the worldwide demand for PCs, Apple posted a $200 million loss, and analysts were not optimistic about Apple's future. Undeterred, in January 2001, Jobs opened the annual Macworld conference in New York City with his usual brand of enthusiastic vision. He announced that personal computing, far from tailing off into irrelevance, was about to leap ahead into a new Golden Age. To support his vision he introduced several new Apple products that were intended to align the Mac with this new "digital lifestyle".

Though the conference attendees may have nodded knowingly, few understood what he was talking about, for at this point habits which would later be hallmarks of the digital life style—listening to music online, creating digital movies and sharing photos through networks of computers—were not widely practiced, except perhaps by the most innovative of consumers. Any such habits were still in their domain, as MP3 technology, and MP3 players specifically, were still quite new, and no one yet knew exactly what to do with them. Launched in 1998, MP3

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players were initially seen as an alternative to portable CD players. They only held a couple of hours worth of music, and there were still technical glitches such as transfer times and clumsy user interfaces that cast these new gadgets firmly into the realm of the geek.

Interestingly this is not too different from the situation that existed when Apple first entered the PC market; the concepts and technology existed, but they weren't popular. Apple's stroke of strategic genius was to create a way to simplify and popularize them through cool and innovative design. This approach became foundational to their business strategy as well as their corporate culture, and it can still be seen today, irrespective of the fact that so much has changed. In this regard, this company's guiding principles have remained remarkably consistent. In 1998 as today, Apple's strategy has been to release cool new products frequently accepting and capitalizing on the fact that computer products enjoy a short product life cycle. Apple popularizes difficult technology by making it fun and intuitive, and characteristically they wrap it all up in a super-hip package that makes consumers of their products feel as if they belong to an exclusive community. The company's commitment in 2006 differs from their commitment in 2000 only insofar as the addition of the words "portable digital music":

The Company is committed to bringing the best personal computing and portable digital music experience to students, educators, creative professionals, businesses, government agencies, and consumers through its innovative hardware, software, peripherals, services, and Internet offerings. Many have criticized this approach, particularly the more conservative elements within the business community whose view is summed up by *Business Week* who wrote when iPod was first introduced that "a few might pay a premium for good design, but it isn't a good business strategy." Those same people may today wish they had at least bought a few shares of stock as a hedge against possible shortsightedness, but more to the point, this type of thinking seems to miss exactly what it is that Apple has always sold.

Consider that last year, Norway, Denmark and Sweden challenged Apple in court over this limitation of their product, a case which Apple's competitors are following with great interest. Whole industries want a piece of Apple's pie, most notably mobile phone manufacturers. Nokia has announced that it is setting up a rival to iTunes in its purchase of the American digital music service Loudeye. Songs downloaded from the new Nokia subscription service will play on any digital music player, including iPod. Not coincidentally, handsets are one of the explosive new growth areas for portable digital music.

Apple continues to mitigate these risks by keeping it hard to substitute, and this gets to the heart of the matter, that iPod symbolizes more than just another MP3 player. If Apple wins all the chips, then iPod's halo effect will help Apple outmanoeuver such threats, and future product offerings such as iPhone, which

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are being developed now in response to the competitive onslaught, will gain a critical head start. As it stands there is simply no substitute for an iPod. This is reinforced consistently across the technology, advertising, promotion, and accessory ecosystem. In this sense, buyers have strengthened Apple's competitive position because at sales of over 100 million units, and 70% of the market, iPod is the industry standard for MP3 players. In a mesmerizing feat of mental acuity, Apple helps consumers judge the efforts of its competition against a standard they themselves invented. In order to be part of the phenomena, buyers have shown that they will pay a premium, and that for the most part, there are no ready substitutes. This causes a significant problem for competitors when the global conversation about MP3 players invariably leads to all things iPod. Any competing product will certainly be judged against the gold standard of iPod, and because of Apple's early entry and subsequent early lead, MP3 players from today through forever won't be strictly judged by their technical merits, but rather on their value as a style accessory.

Thanks to iPod, any potential entrant has to now offer an augmented product that delivers an entire package of benefits far and above the simple core attributes most tech companies specialize in. We can reasonably infer that Apple did plenty of primary and secondary research about the types of people who would be interested in iPod, and crafted their message accordingly. Undoubtedly they owned mountains of data from their over twenty years being at the epicenter of the PC revolution as well as their relevance birthing its child, the Web revolution. Using laddering in interviews perhaps revealed that this new breed of high tech consumer had desires far and above the technical. Accordingly, they positioned the product's physical attributes in a way that was secondary to its contribution toward bettering the consumer's world. A tool for building high self-esteem, impressing your friends, and being part of a semi-exclusive club, that by the way happens to be beautifully designed and technically superior to the competition. What's not to love? Of course, they charge for this love, but they knew from the beginning where they were going, and they didn't get there by accident. Looking at the Christmas retail season of 2001, three months after iPod's release, we see a story that practically draws for us a perceptual map whose axes are price and technical capability. From that we can backwards-engineer possible research findings, conclusions, and recommendations.

The leading device at the time was Sonicblue RioVolt MP3 CD Player, which retailed for less than $100. Creative's Nomad Jukebox was selling its recently introduced 6GB hard drive for about $250, and e.Digital Corp. was touting its walloping 10GB palm-size Treo 10 for $ 249 Treo. Against these contenders, iPod's $399 price tag for a mere 5 GB of storage doesn't seem to make sense. Also, at this time, iPod was only compatible with Macs, which amused Bill Gates, and continued to do so even as late as 2005 when USA today quoted him as saying: I think you can draw parallels here with the computer—here, too, Apple

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was once extremely strong with its Macintosh and graphic user interface, like with the iPod today, and then lost its position. It is our contention that the initial release of iTunes 1.0, which as noted was practically laughed at, was a Trojan Horse that delivered quite a bit of business intelligence to Apple.

We know that they released it about one year before iPod was released, so there's no doubt that the entire iPod strategy and product development were well into their final phases. To go back to that time is to recall that Apple faced numerous legal issues relating to copyright infringement. Releasing iTunes before there was a correlating MP3 player gave Apple a window to negotiate Digital rights Management agreements without the success of iPod hanging over their head. In other words, the lack of a product didn't cause the alarm bells to go off among key stakeholders in the distribution chain, whose future position was in grave threat, and who would have certainly put the brakes on if they had seen what was coming down the tracks. Finally, iTunes usage in that first year may have served as the final checkpoint, validating Apple's contention that a successful MP3 player—one that would truly leverage the potential of the technology—would need to find a way around the clunky process of buying and ripping CDs. Building these findings into a psychographic profile and consistently speaking to that profile as an individual would comprise the remainder of the marketing effort, in all its facets, but how many psychographics were there?

What factors did Apple take into account when deciding whether there were viable segments out there? It is clear today that Apple is marketing different products to different groups of people: the flagship iPod video which is expensive, the Nano which is midrange and a shuffle which is inexpensive and small. This segmentation strategy appears to make sense, since the market is heterogeneous, the segments are identifiable and they are divisible. But, did releasing different products risk dividing the total market, or did it create new opportunities for sales? Greg Joswiak, Apple's VP of hardware marketing in 2005 noted in reference to the Nano that "This is a different product and it will take the iPod to a different market, one which couldn't afford the price of the normal iPod." That it was a good move was lauded by Merrill Lynch's analysts at the time when they concluded, "The iPod shuffle is likely to outsell all Apple's other iPod models combined, and may be in short supply until next quarter". Extreme iPod published a report at about the same time that suggested that the strongest demand for the iPod shuffle was likely to come from new users. "Existing iPod owners may prefer the larger capacity and display of existing iPods, which makes for good market segmentation on Apple's part. New-to-iPod users tell us the price points and ease of use are attractive." By the following year, iPod had moved into its sixth generation, with a line that featured the iPod video player, an iPod Nano with a colour screen, and the iPod shuffle. Also being upgraded right alongside the product was its life-giving infrastructure iTunes, now able to offer and organize different types of media. We believe that in the beginning

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Apple's segmentation strategy focused on narrow markets and a unique niche because in 2001 it was early adopters who might be interested in MP3 players. However iPod also created a whole industry, which must now be characterized as having a broad scope, simply because of its ubiquitous presence. It may be a unique niche—it certainly was at the time—because they intentionally did not go for cost leadership.

Source: *http://www.mbaknol.com/management-case-studies/case-study-on-apples-ipod-the-marketing-of-an-idea-project/*

2.4 CONCENTRATED MARKETING

Concentrated marketing is a marketing approach that is aimed at connecting with and selling products to a specific consumer group. This strategy calls for taking steps to identify the target market that is highly likely to be attracted to the products, and developing a marketing plan that is unique to reaching that group of consumers. The process also normally includes planning the delivery of products in a manner that is likely to generate repeat business from those consumers. In many cases, concentrated marketing is an ideal approach for smaller businesses with limited resources, since it does not rely on the creation and use of mass marketing, production, or distribution to reach a wide range of potential consumers.

Example

Toyota Company uses the concentrated marketing strategy to capture the market segment for hybrid vehicles. Toyota has had exceptional success with this strategy because of its brand name that reminds people of reliability. Toyota began its hybrid market share 10 years ago with Prius as its first vehicle (in 2000). Ever since then, it began expanding its selection of hybrid vehicles by including the Toyota Camry (America's top selling mid-size Sedan), and the Toyota Highlander. By introducing a selection of different hybrid vehicles, Toyota was able to capture more customers, thus making it the world's leading hybrid system. Customers have a lot of discretion in choosing their vehicle preference. Whether they prefer a small size efficient vehicle (the Prius), or America's favorite mid-size Sedan (the Camry), or even the Hybrid SUV (the Highlander); it caught many consumers thinking about Toyota.

The concept of concentrated marketing is the opposite of what is known as undifferentiated marketing strategies. With an undifferentiated approach, the idea is to capture as much of the market share as possible by creating a broad campaign that appeals to consumers of all ages, genders, economic backgrounds and geographical locations. By contrast, a concentrated marketing campaign seeks to identify the niche market or markets where there is likely to be a high demand for the products produced. In order to reach those niche markets, the producer will create a plan that involves only those forms of media that are regularly used to reach consumers

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in those niche markets, rather than going with a broader campaign approach. For example, a company that markets farming implements will make use of advertising in print media aimed at farmers, rather than creating ads that are found in magazines with a broader reader base.

While a concentrated marketing approach can help a business make the most of a small advertising budget, there are some potential drawbacks with this type of marketing. First, a concentrated effort requires a highly developed marketing plan, since it is targeted to a specific audience. This means a great deal of research into the wants, needs, and buying habits of that group of consumers, a task that can be somewhat costly on the front end. In addition, this type of focused or targeted marketing means that other consumer groups are not targeted and thus are not likely to be reached. In the event that the company is unable to capture an appreciable share of the targeted group of consumers, there may not be the luxury of more time to cultivate a client base with a different consumer group.

2.5 DIFFERENTIATED AND UNDIFFERENTIATED MARKETING

Today's markets represent the surplus market, with a wide range of products available for sale. Consumer has huge product offering to choose from, for soap, there are more than dozen brands and each brand has at least 4 or 5 varieties. Companies have to work on strategies, which would differentiate their products from competitors. This differentiation strategy also cannot last for long as competition is likely to catch very soon. Companies are aware of the product life cycle; challenge is to work up strategies for positioning and differentiating as to extend product life and making it profitable.

Differentiated Marketing

A differentiated marketing strategy involves the preparation and communication of different brand and product messages to different types of customers. This approach is also known as segmented marketing. The most common strategy is to find a niche in several markets or demographic segments and fill the niche with corresponding products. In some cases, the product itself may contain the basic components with alterations made for each segment. Differentiating may be expensive, especially for smaller companies that have fewer resources than large organizations. Filling market niches, however, can be a highly lucrative business strategy.

Companies often spend copious dollars defining the different markets and demographic segments in an overall economy. Differentiated marketing depends on a company finding multiple market niches, many of which may be small and difficult to define at times. Once a company discovers the market niche, information on the type of product that will fill the niche is the next step. In some cases, the product

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choice may be quite obvious, while in other niches, consumer research is necessary to define the best product for the niche. Costs may be different for each market niche and its related product.

Other issues may also present themselves under a differentiated marketing strategy. Industry profiles may be necessary to determine the current stage of the industry's market. For example, dying industries that have a market niche may not be profitable for an extended time period. High competition can also be a part of industry analysis. Even though a niche exists, the level of competition may be such that a large, flexible company can quickly alter operations in order to snuff out new competition, even in a niche market.

Differentiated Pros

A differentiated approach works best when you have a lot of benefits to offer or varying interests from different segments of the market. Car dealers, for instance, promote the benefits of affordability and fuel economy to more cost-conscious buyers. They emphasize luxury, status and performance to buyers with more money to spend on a car that gives them a sense of esteem. By separating messages, you make it easier for each audience to see the benefits that appeal most specifically to them.

Differentiated Cons

A major drawback of a differentiated approach, especially for small businesses, is the cost. Preparing strategies, producing different ads and putting them in different media is more expensive than developing one message. You also risk diluting your central brand identity if you try to do too many things for too many people. Gap Inc. uses different names—Old Navy and Banana Republic—to target distinct markets of economy buyers and higher end quality buyers. Trying to target these markets without differentiation can cause confusion.

Undifferentiated Marketing

Undifferentiated marketing is a marketing strategy that works as if all consumers have similar tastes and motivations. It is sometimes known as mass marketing. There are distinct advantages and drawbacks to undifferentiated marketing.

Most marketing falls into three main categories. Undifferentiated marketing treats all consumers the same way. Differentiated marketing involves producing different marketing for specific market segments. Concentrated marketing focuses the entire marketing on only one market segment.

Some of the differences among these types of marketing are disputable. In some definitions, differentiated marketing involves the same product, but marketed in different ways to different market segments. In other definitions, it can cover a company that develops variations on a product to cover these different segments. One example would be a drinks company that developed a low-calorie version of its product to appeal to the health market.

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Undifferentiated Pros

The major benefit of presenting one message to a large audience is the affordability. It is much less expensive to communicate this way, and it is easier to emphasize your distinct brand value. Walmart has an undifferentiated approach that stresses its low costs. This universal message is delivered through all of its communications. This makes it easy for the audience to know what to expect. Small companies more often emphasize local involvement and a personalized experience. Message consistency also enables better word of mouth development, as all customers see the same things.

Undifferentiated Cons

If you have very distinct benefits and a diverse customer base, failure to differentiate causes problems. Cell phone providers, for instance, would have limited success trying to hit conservative, older buyers with messages about cool gadgetry, games and texting. Instead, they need to promote communication with family and safety benefits to this market. A lack of differentiation may inhibit your abilities to diversify and grow your business.

Case Study: L'Oréal Marketing Strategies in India

Before the facial cosmetics, L'Oreal was known as a hair-colour formula developed by French chemist Eugene Schueller in 1907. It was then known as "Aureole". Schueller formulated and manufactured his own products which were sold to Parisian hairdressers. It was only in 1909 that Schueller registered his company as "Societe Francaise de Teintures Inoffensives pour Cheveus,"the future L'Oreal. Scheuller began exporting his products, which was then limited to hair-colouring products. There were 3 chemists employed in 1920. In 1950, the research teams increased to 100 and reached 1,000 by 1984. Today, research teams are numbered to 2,000 and are still expected to increase in the near future. Through agents and consignments, Scheuller further distributed his products in the United States of America, South America, Russia and the Far East.



Check Your Progress

1. Define market segmentation.
2. What do you mean by geographical segmentation?
3. What is concentrated marketing?
4. What is differentiated marketing?

The L'Oreal Group is present worldwide through its subsidiaries and agents. L'Oreal started to expand its products from hair-colour to other cleansing and beauty products. The L'Oreal Group today markets over 500 brands and more than 2,000 products in the various sectors of the beauty business. These include hair colours, permanents, styling aids, body and skincare, cleansers and fragrances. Indeed, the L'Oreal Group has reached the peak that all cosmetic brands sought after.

L'Oreal has engaged in many forms of market segmentation in their venture in India, with different variables during different time periods. Firstly we will discuss the segmentation methods when it first entered the market in 1991, followed by what ensued after their makeover.

When it First Entered the Market

- *Gender Segmentation:* L'Oreal first segmented the population into the different sexes as they thought their products' "combination of low price and natural ingredients would fit India's market, where women use plants and herbs as part of their beauty culture". Their product specifically catered to the women of India, though later our group discusses how it should carve a niche market for itself in the men's sector as well.
- *Income Segmentation:* L'Oreal segmented the market into two main segments: the poorer masses and the rest. It marketed its product as low in cost to attract the poorer masses, and its efforts in reducing ingredients to cut price reveals its aim to minimize costs as much as possible. At this point of time, it was not yet targeting the affluent middle class or upper class and thus did not make any distinct segmentation of the richer classes, preferring to regard them as a whole entity.

The "L'Oreal Makeover"

After a poor start, L'Oreal approached the market with a different concept. Presence of home brands posed problems as they had already captured a large proportion of the masses' market share. They offered cheaper products to buyers at a price which L'Oreal was unable to match, and their long presence had established a strong sense of loyalty in the buyers, making it difficult to pry them away. With the understanding that it needed to capture a different market, it proceeded with a different form of segmentation in order to better identify its target segments

- *Income Segmentation:* This time L'Oreal separated a new segment from the original two segments: the quickly rising middle class which was gaining in affluence. This was very specific compared to the original two broad segments it identified as they saw that this was the fastest growing

income class that represented a highly untapped market potential due to their radically different mindsets from the masses.

- *Psychographic Segmentation:* L'Oreal segmented India into different groups based on their thinking and behaviour from the older, more conservative Indians who held conservative values of thriftiness more strongly and stubbornly, and the younger more impressionable generation who had developed a very different and westernized view on spending and culture. Influx of brands like Tommy Hilfiger, Benetton and even MTV in 1991 greatly emphasized Western values of luxury, beauty, and self-awareness leading to the rise of a new segment of people who did not view thriftiness with equal importance as their predecessors but were rather more willing to splurge on luxury goods which were previously considered too expensive and wasteful.
- *Age Segmentation:* By segmenting the market into the younger middle class from the more conservative, often older Indians, it had also inevitably segmented the market based on age, and showed an increased interest in capturing the market share of the younger Indians.
- *Benefits Segmentation:* L'Oreal further segmented the market on a benefits basis when it introduced Excellence Crème. Being in crème form, it [was gentler on hair] compared to the natural ingredients such as ammonia which damaged and dried up women's hair. It thus segmented the market into those who needed the hair dying and strengthening benefits of Excellence Crème and those who did not. This was a crucial form of segmentation for L'Oreal as it underlined the core concept of its marketing strategy to promise superior products with additional benefits to consumers when choosing between L'Oreal and home brands, and subsequently has led to the immense success that L'Oreal has experienced in India.

L'Oreal has made use of various variables to identify the segments it wishes to target, and also engaged in using Multiple Segmentation Bases (Age, Income, Psychographic and Benefits) to complement its Differentiated Marketing approach. This allows them to effectively identify several differentiated segments and design separate offers for each, translating into stronger sales and a stronger position within each market segment. In the following section we discuss which segments were targeted and the strategies employed by L'Oreal with its newly identified segments.

L'Oreal targeting and positioning its products

L'Oreal now targets the young affluent middle class females, especially those with greying hair, and also maintains some effort in targeting the masses. It saw a need

to target this new untapped market for maximum profits as it not only possessed the purchasing power that masses lacked, but more critically a modernized mentality that made these people more receptive to purchasing L'Oreals' more luxurious and expensive products.. While retaining their core values of thriftiness, [the young middle class were more willing to spend on luxuries and formed the heart of transformation of consumer spending in India].

L'Oreal also target women that sought benefits from using its products. Since there was previously no product that solved women's hair greying problems, L'Oreal introduced Excellence: Crème that promised additional benefits apart from just dyeing of hair. It did not damage hair like henna or ammonia but even promised to strengthen it. The young middle class fit into this segment well because unlike their older predecessors, who did not mind using products that damaged their hair as long as they were cheap due to monetary problems, these women were more educated and concerned for the need to have healthy beautiful hair, as well as more equipped with the purchasing power to do so. Cheap harmful products would not appeal to them as much as high quality L'Oreal products which justified their higher price with higher benefits.

L'Oreal has not given up on targeting the lower income masses however. Demand for necessities have been increasingly driven by the rural rather than the urban sector, and as of 2008 only 29% of India lived in urban areas. Thus it has introduced new products like 'Colour Naturals' which can be used multiple times and costs only $3.10, translating into increased value for the masses. Though difficult to capture, the masses' market share formed too large a proportion of the total market share to be ignored, and L'Oreal maintains some effort in capturing their market share, thus inducing L'Oreal to introduce products in this sector of the market.

'Excellence Crème' was marketed as a 'luxury purchase' and a 'high-end niche' product, positioning itself as higher quality and made of extensively developed ingredients with additional benefits. One of the most innovative and pricey products in Europe then, it was also gentler on the hair than local products such as henna or ammonia. L'Oreal hired Ms World in an advertisement to show that beautiful women use L'Oreal, thus positioning itself as not just a basic shampoo, but one that made women beautiful. This promise of beauty and benefits positioned L'Oreal higher in the market compared to the home brands which positioned themselves as cheap, value-for-money products which only served the most basic of functions of hair cleaning.

In terms of how L'Oreal differs from other brands, it employs a "more for more" marketing concept while home brands used a "less for less" concept. Home brands sought to sell the most basic shampoos with the lowest quality ingredients in order to offer the lowest prices, while L'Oreal justified their high prices by using high quality ingredients. While home brands used such a concept to attract the

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lower-income masses that only needed bare necessities, L'Oreal's strategy targeted the more affluent that were more educated and had more disposable income to splurge on luxury items if they justified their price.

There was also a difference in how they captured loyalty. Home brands aimed to garner loyalty of existing users through brand familiarity as repeated use by generations of Indians would bring about feelings of trust and dependability. This attracted thrifty housewives who wanted the cheapest products, which translated into loyalty and substantial profits when their children grew up and also continued to use the same brands. L'Oreal however could not and did not try to establish brand familiarity in such a short time as it was very new in the market. It thus attempted to capture the loyalty of a new segment of the market by promising better quality products to the rising middle class, hoping they would realise L'Oreal's higher price and better quality justified a move away from home brands to a new found loyalty in L'Oreal.

Finally, in L'Oreal's attempt to re-enter the lower income market, it differs from home brands by offering good quality at lower prices instead of the home brands' offer of low price and low quality. While still more expensive than home brands, it was considerably cheaper than its own up market products but retained much of its quality. This translates to greater value for the masses who might switch to L'Oreal when they realised that better quality shampoo offered at similar prices to the home brands.

Does any social responsibility play a role in L'Oreal's marketing strategy in India?

Corporate Social Responsibility (CSR) plays a significant role in profitability in many companies, describing the relationship between businesses and the larger society surrounding it. It can also redefine the role and obligation of the private business within that society if deemed necessary (Keinert). When L'Oreal first entered India, beauty education was absent, training seemed redundant and hairdressers were well satisfied with cheap local domestic brands (Patel). L'Oreal realized that its business operations in this case concerned a larger group than itself if it wished to increase profits. L'Oreal's CSR thus began to be driven by the need to include social concerns into its business decisions and operations, and it focused on increasing its reputation as the leading beauty industry amongst the urban Indian middle-class. Since then, they have envisioned to differentiate themselves from the rest of its competitors and invested heavily in education and training to boost their status in the community.(Patel)

L'Oreal's social initiatives can be linked to three key areas: Education, Women and Science. Working with Aide et Action, a non-governmental organization whose aim is to promote access to education in rural areas, L'Oreal India launched the program "Beautiful Beginnings" on 7th July 2009, an initiative which aimed to

train at least 200 unprivileged school drop-out girls every year to make them employable. It was even inaugurated by Bollywood actress Aishwarya Rai, an influential and popular female artist in Bollywood. Her patronage enabled the masses to identify L'Oreal more closely to the Indian community, and we believe this had far-reaching effects on how the masses perceived L'Oreal as a socially responsible and dependable brand. The initiative was very successful, with more than 200 students graduating within a year, and some even gainfully employed by L'Oreal. In January 2009, L'Oreal, in collaboration with Nehru Science Centre (NSC), set up an exhibition "Decoding the Hair" in Mumbai. An exhibition that is first of its kind in India, it showcased large magnified sculptures of the hair strands as well as other games and activities relating to hair care and products. Housed in a well-known exhibition point like NSC and reaching out to schools, college and the corporate sector, L'Oreal is able to position itself in India as a "true expert in hair care" with its focus on scientific research and development. In 1998, L'Oreal India started the "For Young Women in Science Scholarships" which awarded ₹ 250,000 to 5 esteemed girl students each year from the state of Maharashtra, to pursue studies in a recognized college or university in India. By sponsoring these young women and their hopes for the future, the programme can increase the role of women working in scientific disciplines, empowering them with knowledge.

By empowering women with new skills and knowledge, female participation in the labour market can be increased, thereby increasing their disposable income and their financial independence. This translates to a larger pool of urban middle-class females with the purchasing power for L'Oreal products and thus a rise in profits. Most importantly, with these initiatives, L'Oreal places itself in the light of possessing a genuine sense of responsibility via its contributions back to the community. Ultimately, this increases their reputation, image and reliability with not just the targeted female urban middle-class, but the rest of India and even the world.

Source: *Scribd.com*

2.6 SERVICE POSITIONING

Services firms are not identifying their key market segments and then determining how they wish consumers to perceive both their company and its products and services. Positioning is of particular significance in the services sector as it places an intangible service within a more tangible frame of reference. Thus the concept of positioning stems from a consideration of how an organization wishes its target customer to view its products and services in relationship to those of its competitors and their actual, or perceived, needs.

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"Positioning is concerned with the identification, development and communication of a differentiated advantage which makes the organization's products and services perceived as superior and distinctive to those of its competitors in the mind of its target customers."

Positioning offers the opportunity to differentiate any service. Each service firm and its goods and services has a position or image in the consumer's mind and this influences purchase decisions. Positions can be implicit and unplanned and evolve over a period of time or can be planned as part of the marketing strategy and then communicated to the target market. The purpose of planned positioning is to create a differentiation in the customer's mind which distinguished the company's services from other competitive services. It is important to establish a position of value for the product or service in the minds of the target market, i.e. it must be distinguishable by an attribute, or attributes, which are important to the customer. These attributes should be factors which are critical in the customer's purchase decision.

There is therefore no such thing as a commodity or 'standard' service. Every service offered has the potential to be perceived as different by a customer. Buyers have different needs and are therefore attracted to different offers. It is therefore important to select distinguishing characteristics which satisfy the following criteria:

- **Importance:** The difference is highly valued to a sufficiently large market
- **Distinctiveness:** The difference is distinctly superior to other offerings which are available
- **Communicability:** It is possible to communicate the difference in a simple and strong way
- **Superiority:** The difference is not easily copied by competitors
- **Affordability:** The target customers will be able and willing to pay for the difference. Any additional cost of the distinguishing characteristic(s) will be perceived as sufficiently valuable to compensate for any additional cost
- **Profitability:** The company will achieve additional profits as a result of introducing the difference

Each product or service has a set of attributes which can be compared to competitive offerings. Some of these attributes will be real, others will be perceived as real. A company wishing to position it should determine how many attributes and differences to promote to target customers. Some marketers advocate promoting one benefit and establishing recognition as being the leader for that particular attribute. Others suggest that promoting more than one benefit will help in carving out a special niche which is less easily contested by competitors. The selection of the differentiating attribute(s) is most successful if it confirms the fact which is already in the mind of the target market. Denying or fighting customers' perceptions of different offerings in the market is unlikely to be successful. A successful positioning strategy takes into account customers' existing perceptions of market offerings. It determines needs which customers' value and which are not being met by competitors' services. It

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identifies which unsatisfied needs could be satisfied. The positioning strategy seeks to integrate all elements of the service, to ensure that the perceived position of the service is strongly reinforced.

Services have a number of distinguishing characteristics which have special implications for the positioning and selection of which attributes to emphasize. Three of the key characteristics of services, make positioning strategies of particular importance in marketing a service. These are the intangibility, the degree of variability or heterogeneity in quality of a given service, and inseparability—the fact that the performance of a service will often occur in presence of a customer.

Positioning can permit an intangible service benefit to be represented tangibly. It can help the customer see an intangible benefit—cleanliness; and this view can be reinforced by plastic covered glasses in rooms and a paper cover over the lid of a lavatory stating 'sanitized for your protection'. This helps the customer to associate cleanliness with the service offering, reinforcing the position that the hotel wishes to portray. Service companies often promote their reputations in an attempt to add tangibility.

Services are also highly variable and rely to a great extent on input from company employees for their production. For example, in a restaurant the waiter is the main point of contact with the customer and his service performance will be a major factor in how the establishment will be judged. His performance will vary at different times, and there will also be variance between his service and that of another waiter or waitress in the restaurant, as a result, the quality of the delivered service can vary widely.

Further, the quality of small elements of a total service offering may affect the received quality of the service as a whole. For instance, a poor check-out procedure from a hotel, may greatly affect the perceived quality of the overall experience of staying on it. The customer's perception of the quality of the service is therefore greatly affected by the quality of the overall experience of staying in it. The customer's perception of the quality of the service is therefore greatly affected by the quality of the staff who are responsible for delivery. An advantage can be gained by providing better trained and more highly responsive people. A positioning strategy may therefore include the distinctive characteristic of employing 'better people".

Services tend to be inseparable and are characterized by the fact that they are performed in the presence of the customer.

The distinctive features of the services outlined above provide the basis for competitive positioning strategy.

Positioning can be considered at several levels:

- Industry positioning—the positioning of the service industry as a whole
- Organizational positioning—the positioning of the organization as a whole
- Product sector positing—the positioning of a range or family of related products and services being offered by the organization

- Individual product or service positioning—the positioning of specific products

2.7 NETWORKING: NETWORKING WITH SHIPPERS, WHOLESALERS AND INDUSTRIES

When a company or a manufacturer produces goods or services, it has the immediate responsibility to distribute and sell them to the industrial and institutional customers. The industrial customers generally constitute of wholesalers, retailers, manufacturers, educational institutions, governments, hospitals, public utilities, and other formal organizations. There are various intermediaries who are involved in a distribution and selling process helping the manufacturers to make their goods reach the end users. Thus, a network or channel that helps to flow the goods from the producer to the consumer through a set of interdependent organizations (intermediaries) is called distribution channel or trade channel or marketing channel. Channels are the tools used by management to move the goods from the place of production to the place of consumption. In the progression, the title of goods gets transferred from sellers to buyers.

Industrial distribution is unique as there are several different methods of channeling the products and services to industrial consumers. The type of product, the selling price of the product and technical knowledge required to sell the product all play a considerable role in selecting the proper sales or distribution channel. Unlike consumer organizations, the decisions taken by the industrial organizations on distribution channels is of great significance as the decisions involved are of long-term nature that cannot be changed frequently. The industrial organizations carry on certain important functions till the products reach the consumers—like utilizing the services of transportation companies for distribution, the services of warehouses for safe storage of goods, inventory control, order processing and selection of marketing channels. This necessitate taking important decisions like devising effective communication tools, planning promotional activities, managing finances, etc. that help in serving the consumers better.

If an organization is engaged in selling products or services to on B–C model, the dynamics of Relationship Management will be different from a B–B mode. Let us take the case of a multinational company engaged in manufacturing of computers. The company would be sourcing or manufacturing at various geographical locations across the globe for supplies to different markets. It can be manufacturing at Company owned factories in different countries or using contract manufacturing partners to manufacture on their behalf. The products are transported through service providers using multi modal transportation networks and a host of agents handling the cargo movement from end-to-end. The products finally are sold to a wholesaler or stockist or sold by the Company to the institutional buyers. There can also be cases where

the company maintains its own third party warehouses and sells to the retailers. In such complex networked supply chain the organization has got to ensure that the products are supplied timely, as per customer requirement.

The organization's success in being able to reach its products to the customer organization timely and successfully over a long period depends upon the seamless working of the entire network. This is possible when the organization is able to build a relationship with every stakeholder in the network and make that difference. In such complex networks, the process alone will not be able to sustain the transactions and the relationship or the emotional connect with the people involved is what makes things happen. Organizations will necessarily have to invest in building strong partnerships with principle service providers and partners so that they are able to get the partners to deliver a happy experience to the end customer too.

When the customer is an institutional customer or a business, the complexities of transactions pose a challenge to the organizations. In all such businesses the organizations set up dedicated Key Account Relationship Managers and teams at various levels to ensure that they reach out to the customer and build relationship at multiple levels where it matters. Therefore, there can be multiple levels of relationship building that one needs to engage with including at the actual user level to the procurement, technical as well as management level at the customer end. The organizations would have to accordingly formulate a relationship management strategy and process as well as create a team to build and grow the relationship in such cases. In the end the dedicated focus and investment made into such relationships pays well in terms of future business opportunities.

2.8 NETWORKING WITH WAREHOUSE SERVICE PROVIDERS AND TRANSPORT OPERATORS

Transportation, warehousing, order processing and fulfillment, packaging, labeling, and bill payment are some of the key processes that can be outsourced to specialist firms called third-party logistics firms, or 3PLs. If these firms are efficient and effective, then the entire supply chain can benefit from improved capacity utilization, enhanced service levels and lower costs.

3PLs can provide technological and other flexibility to client companies. For instance, channel partners may need to change their technology for implementing quicker systems. Similarly, they may have changing needs for warehousing and transportation facilities. Such changing demands can be easily taken care of by third-party logistics companies.

A warehouse is a location with adequate facilities where volume shipments are received from a production centre, broken down, resembled into combinations representing a particular order or orders and shipped to the customer's location or locations. The rationale for establishing a warehouse in a distribution network is

the creation of a differential advantage for the firm. This advantage accrues from achieving a lower overall distribution cost and/or obtaining service advantage in a market area.

The concept of a distribution warehouse or a distribution centre is vastly different from the earlier concept of a godown for storage. The need of that system is due to:

- Ensuring protection against delays and uncertainties in transportation arising from a variety of factors.
- Eliminating lack of sophistication in production control and consequent uncertainties in the availability of product at the desired time and place.
- Providing for adjustment between the time of production and the time of use because production and use can be seldom synchronized.
- Serving as a reservoir of goods, receiving surplus goods when production exceeds demand and releasing them when a scarcity of goods is anticipated.

The modern distribution centre or distribution warehouse is a pivot in the physical distribution system. So according to this system movement is the primary objective of a warehouse. As per this new concept a warehouse is a location where inputs (incoming factory shipments) are converted into outputs (outward shipments representing orders of customers). This conversion takes place without consuming too much time.

Thus a warehouse may be defined as a location of temporary storage facility and from where they are dispatched with the main objective of maintaining the flow of goods throughout the system. These goods may be raw materials or finished products. Prima facie, a warehouse adds to the cost of distribution. But with the modern concept of warehousing, the other benefits which accrue far outweigh the additional cost.

Warehousing Operations

The essential processing of materials in a warehouse involves the following operation

- **Receiving goods:** A warehouse accepts the merchandise delivered by a transporter or an attached factory and then accepts the responsibility for this merchandise.
- **Identifying goods:** The appropriate stock-keeping units are identified and a record made of the number of each item received. It may be necessary to identify the item by an item code, tag, a code of the carrier or container, and/ or by physical properties.
- Sorting goods: The incoming goods are sorted out for appropriate storage area in the warehouse.
- **Dispatching goods to storage:** The goods are kept aside where they can be found later when needed.
- **Holding goods:** The goods are kept in storage under proper protection until needed in the warehouse.

Check Your Progress

Fill in the Blanks

5. .... is concerned with the identification, development and communication of a differentiated advantage which makes the organization's products and services perceived as superior and distinctive to those of its competitors in the mind of its target customers.
6. .... tend to be inseparable and are characterized by the fact that they are performed in the presence of the customer.
7. The .... generally constitute of wholesalers, retailers, manufacturers, educational institutions, governments, hospitals, public utilities, and other formal organizations.
8. .... are the tools used by management to move the goods from the place of production to the place of consumption. In the progression, the title of goods gets transferred from sellers to buyers.

- **Retrieving, selecting or packing goods:** Items ordered by customers are taken out from storage and grouped in a manner useful for the next step.
- **Marshalling goods:** The several items making up a single order are brought together and checked for completeness and order records are prepared or modified.
- **Dispatching goods:** The consolidated order is packaged suitably and directed to the right transport vehicle. The necessary shipping and accounting documents are also prepared.
- **Preparing records and advices:** The number of orders received, the items received and on hand etc., are recorded for replenishment action and stock control and the demand and receipt data are forwarded to a control centre located elsewhere.

Transport Operators

An intermediary can be a transport facilitator as a third party in providing linkages between shippers and carriers. Transport operators include road operators, rail operators, inland waterway operators, and ocean container carriers. Transport cost is important for carrier selection. Other service factors to consider include transit time and reliability, inventory and stockout, capability and accessibility, and security. The shipping supply function shows the quantity of shipping services by sea transport carriers that would be offered at each level of the freight rate, whereas the shipping demand function shows how shippers adjust their demand requirements to changes in freight rates. In the shipping market, the supply and demand curves intersect at the equilibrium price, where both carriers and shippers have reached a mutually acceptable freight rate.

Container Transport

Container transport involves intermodal door-to-door services comprising oceangoing services, as well as land-based transport services through trucks, rail, and/or barges to move containers in an end-to-end shipping linkage pattern. In view of shippers' rising expectations for logistics services, developing capabilities to provide door-to-door services and efficient movements between several points of origin and destination have become a strategic imperative for many container transport carriers.

As most containers for international transport pass through one or more container ports, it becomes difficult for transport carriers to control data exchange along the container transport chain. Effective transport of containers is dependent on responsive and reliable information exchange among actors in the container transport processes. Coordination among transport carriers and related parties such as port and terminal operators is necessary to ensure effective information flow in the container transport chain.

Ocean Container Carriers

Ocean container carriers are the most visible link for international movement of containers, as most container moves include at least one sea leg. There are 457 carriers operating vessels, and the majority of them are fully cellular ships. The world's container vessel fleet is dominated by the presence of large carriers that operate high-capacity vessels on major trade routes such as the trans-Pacific, Asia-Europe, and trans-Atlantic routes. The top 20 operators account for 61% of the total capacity, and the top 40 operators account for 72% of the total capacity.

Inland Waterway Operators

Inland waterways suitable for transporting goods can take the form of a natural river, an artificial man-made canal, or an area of water that is closely connected to the shore. Water carriers are the oldest mode of transport, and have facilitated the development of many established cities. The water carrier system is a viable part of the transport system, which competes with other inland transport modes such as roads and railways. Inland waterway carriers often offer all-in-one packages such as carriage from a seaport to a container inland depot and return of empty containers.

2.9 SUMMARY

- Consumer buying behaviour is influenced by individual's own personality traits. These personality traits do not remain the same but change with the life cycle. The choice of occupation and corresponding income level also play a part in determining consumer behaviour.
- The consumer's decision to purchase or reject a product or service is the moment of final truth for the marketer. It signifies the marketing strategy has been wise, insightful and effective, whether it was poorly planned and missed the mark.
- Market segmentation is the process of dividing the total market for a good or service into several smaller, internally homogeneous groups. Members of each group are similar with respect to the factors that influence demand.
- Market segmentation helps the marketers to bring together individuals with similar choices and interests on a common platform.
- Concentrated marketing is a marketing approach that is aimed at connecting with and selling products to a specific consumer group. This strategy calls for taking steps to identify the target market that is highly likely to be attracted to the products, and developing a marketing plan that is unique to reaching that group of consumers.
- A differentiated marketing strategy involves the preparation and communication of different brand and product messages to different types of customers.

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- Undifferentiated marketing is a marketing strategy that works as if all consumers have similar tastes and motivations. It is sometimes known as mass marketing.
- Positioning is of particular significance in the services sector as it places an intangible service within a more tangible frame of reference.
- A network or channel that helps to flow the goods from the producer to the consumer through a set of interdependent organizations (intermediaries) is called distribution channel or trade channel or marketing channel.

2.10 KEY TERMS

- **Market segmentation:** Market segmentation is the process of dividing the total market for a good or service into several smaller, internally homogeneous groups. Members of each group are similar with respect to the factors that influence demand.
- **Concentrated marketing:** Concentrated marketing is a marketing approach that is aimed at connecting with and selling products to a specific consumer group.
- **Differentiated marketing:** A differentiated marketing strategy involves the preparation and communication of different brand and product messages to different types of customers.
- **Undifferentiated marketing:** Undifferentiated marketing is a marketing strategy that works as if all consumers have similar tastes and motivations. It is sometimes known as mass marketing.
- **Positioning:** Positioning is of particular significance in the services sector as it places an intangible service within a more tangible frame of reference.
- **Network:** A network or channel that helps to flow the goods from the producer to the consumer through a set of interdependent organizations (intermediaries) is called distribution channel or trade channel or marketing channel.

2.11 ANSWERS TO 'CHECK YOUR PROGRESS'

1. Market segmentation is the process of dividing the total market for a good or service into several smaller, internally homogeneous groups.
2. Geographic segmentation refers to the classification of market into various geographical areas. A marketer can't have similar strategies for individuals living at different places.
3. Concentrated marketing is a marketing approach that is aimed at connecting with and selling products to a specific consumer group.

4. A differentiated marketing strategy involves the preparation and communication of different brand and product messages to different types of customers.
5. Positioning
6. Services
7. Industrial customers
8. Channels

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2.12 QUESTIONS AND EXERCISES

Short Answer Questions

1. Define market segmentation.
2. What are the key features of market segmentation?
3. What do you mean by concentrated marketing?
4. What are the key advantages and disadvantages of differentiated marketing?
5. Define undifferentiated marketing.
6. What are the key levels of positioning?
7. What do you mean by networking?
8. What do you mean by service positioning?
9. State the meaning of differentiated marketing.

Long Answer Questions

1. What are the key steps involved in user decision-making process?
2. Define market segmentation. What are the key basis and types of market segmentation?
3. Discuss the concept of concentrated marketing with the help of a suitable example.
4. Discuss the comparison between differentiated and undifferentiated marketing.
5. Write a detailed note on service positioning.
6. Discuss the role of networking with suppliers, wholesalers and industries.
7. What are the different types and need of market segmentation?
8. Discuss the key elements of warehousing operation.

UNIT 3 PRODUCT AND PRICE MIX DECISIONS

Structure

3.0 INTRODUCTION

Decisions regarding the product, price, promotion and distribution channels are decisions on the elements of the "marketing mix". It can be argued that product decisions are probably the most crucial as the product is the very epitome of marketing planning. Errors in product decisions are legion. These can include the imposition of a global standardized product where it is inapplicable, for example large horsepower tractors may be totally unsuitable for areas where small-scale farming exists and where incomes are low; devolving decisions to affiliated countries which may let quality slip; and the attempt to sell products into a country without cognisance of cultural adaptation needs. The decision whether to sell globally standardized or adapted products is too simplistic for today's market place. Many product decisions lie between these two extremes. Cognizance has also to be taken of the stage in the international life cycle, the organization's own product portfolio, its strengths and

weaknesses and its global objectives. Unfortunately, most developing countries are in no position to compete on the world stage with many manufactured value-added products. Quality, or lack of it, is often the major letdown. As indicated earlier, most developing countries are likely to be exporting raw materials or basic and high value agricultural produce for some time to come.

3.1 UNIT OBJECTIVES

After going through this unit, you will be able to:

- Describe the line, range and consistency of service mix offerings
- Explain the concept of innovative product offerings and new service planning and development process
- Know the elements of service life cycle and BCG product portfolio concept
- Take pricing mix decisions
- Prepare product pricing strategies.

3.2 LINE, RANGE AND CONSISTENCY OF (PRODUCT) SERVICE MIX OFFERINGS

Product, in the marketing context is anything which is offered to the market for exchange or consumption. In goods marketing, we always say that there is a tangible component to which some intangibles like style, after sales service, credit, etc., are integrated. In the case of services, on the contrary, the tangible component is nil or minimal. Conventionally, we describe a product as an object, which is developed, produced, delivered and consumed. However, in services there is no or a little tangible element. Therefore, the services are considered to be as benefits which are offered to the target market. There are two important things to note. First, a service is a bundle of features and benefits and secondly, these benefits and features have relevance for a specific target market. Therefore, while developing a service product it is important that the package of benefits in the service offer must have a customer's perspective.

Offering more than one product or service can help to diversify risk, target different market segments, and build upon the credibility of an established brand—all of which contribute to the sustainability of the business. It can also help balance the need to be financially sustainable with the social mission of the business by targeting simple designs to the subsidy market and more aspirational designs to the full-cost recovery market.

However, expanding the product or service mix should be considered carefully. When deciding whether to expand the mix, consider the resources that the new product or service requires. Does your organization have the capacity to manufacture or

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distribute this new offering? Is it technologically or economically feasible? Will sales of the new offering hurt sales of your existing offerings? Are you meeting the specific needs of customers in your targeted segment?

As a small or medium-sized enterprise or local social enterprise, you may identify the opportunity to expand product mix, but lack the resources or capacity to do this without outside help. Also, the optimal product or service to add to your mix may not yet exist.

Range

Range of the product mix refers to the number of product lines that a company offers or the variety a company offers. Offering a wider array of product lines is common for discount and departments that sell products in a number of different product categories. Manufacturers develop breadth to diversify risks of a given product becoming obsolete. Retailers with wide variety often attempt to market themselves in a virtual one-stop shop.

Product Line

A firm's product line or lines refers to the assortment of similar things that the firm holds. Brother, for example, has both a line of laser printers and one of typewriters. In contrast, the firm's product mix describes the combination of different product lines that the firm holds. Boeing, for example, has both a commercial aircraft and a defense line of products that each take advantage of some of the same core competencies and technologies of the firm. Some firms have one very focused or narrow product line (e.g., KFC does only chicken right) while others maintain numerous lines that hopefully all have some common theme. This represents a wide product mix 3M, for example, makes a large assortment of goods that are thought to be related in the sense that they use the firm's ability to bond surfaces together. Depth refers to the variety that is offered within each product line. Maybelline offers a great deal of depth in lipsticks with subtle differences in shades while Morton Salt offers few varieties of its product.

Products may be differentiated in several ways. Some may be represented as being of superior quality (e.g., Maytag), or they may differ in more arbitrary ways in terms of styles—some people like one style better than another, while there is no real consensus on which one is the superior one. Finally, products can be differentiated in terms of offering different levels of service—for example, Volvo offers a guarantee of free, reliable towing anywhere should the vehicle break down. American Express offers services not offered by many other charge cards.

Consistency

The consistency element of the product/service mix refers to the connection between products within the product line and the way they reach the consumer. For manufacturers, consistency refers to how closely related production processes

are for various products. The more consistent production is, the more efficient and cost-effective it is. For retailers, consistency in a product mix makes it easier to perform suggestive selling and recommend close products. Distinct products in the mix typically translate to a unique selling process for that product.

3.3 INNOVATIVE PRODUCT OFFERINGS

Innovation is a state of mind that can benefit your business processes and models as well as create new products and services. New product development tends to happen in stages. Although firms often go back and forth between these idealized stages, the following sequence is illustrative of the development of a new product:

- **New product strategy development:** Different firms will have different strategies on how to approach new products. Some firms have stockholders who want to minimize risk and avoid investing in too many new innovations. Some firms can only survive if they innovate frequently and have stockholders who are willing to take this risk. For example, Hewlett-Packard has to constantly invent new products since competitors learn to work around its patents and will be able to manufacture the products at a lower cost.
- **Idea generation:** Firms solicit ideas as to new products it can make. Ideas might come from customers, employees, consultants, or engineers. Many firms receive a large number of ideas each year and can only invest in some of them.
- **Screening and evaluation:** Some products that after some analysis are clearly not feasible or are not consistent with the core competencies of the firm are eliminated.
- **Business analysis:** Ideas are now exposed to more rigorous analysis. Profit projections, risks, market size, and competitive response are considered. If promising, market research may be done.
- **Development:** The product is designed and manufacturing facilities are planned.
- **Market testing:** Frequently, firms will try to "test" a product in one region to see if it will sell in reality before it is released nationally and internationally. There is a lesser risk if the firm only commits money to advertising and other marketing efforts in one region. Retailers will also be more receptive in other parts of the country and world if it has been demonstrated that the product sold well in one region. The firm may also experiment with different prices for the product.
- **Commercialization:** Facilities to manufacture the product on a larger scale are now put into operation and the firm starts a national marketing campaign and distribution effort.

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Diffusion of Innovation

The diffusion of innovation refers to the tendency of new products, practices, or ideas to spread among people.

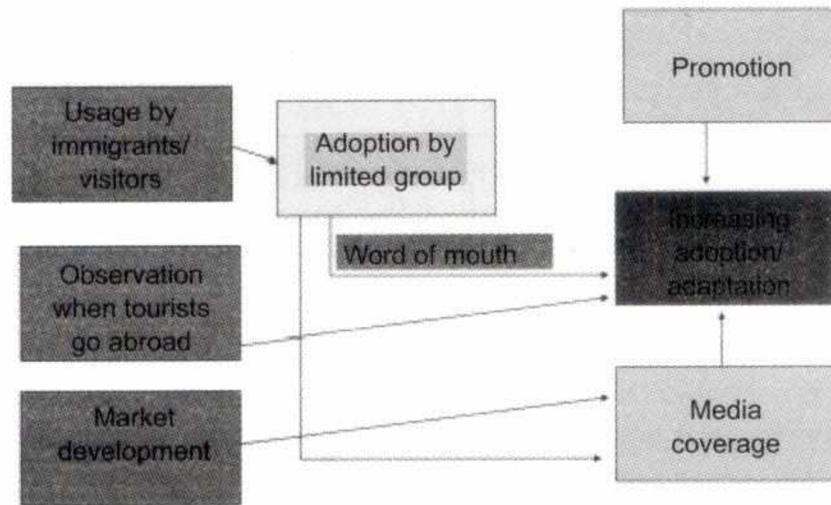


Fig. 3.1

Usually, when new products or ideas come about, they are initially only adopted by a small group of people. Later, many innovations spread to other people. The bell shaped curve frequently illustrates the rate of adoption of a new product. Cumulative adoptions are reflected by the S-shaped curve.

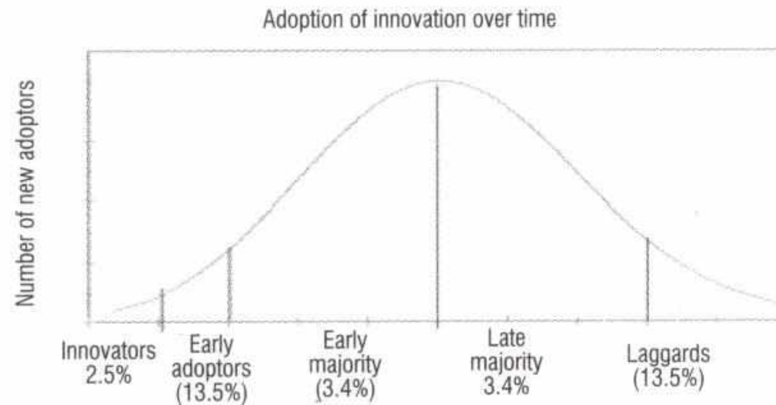


Fig. 3.2

The saturation point is the maximum proportion of consumers likely to adopt a product. In the case of refrigerators in the US, the saturation level is nearly one hundred percent of households. The figure will almost certainly be well below that for video games that, even when spread out to a large part of the population, will be of interest to everyone.

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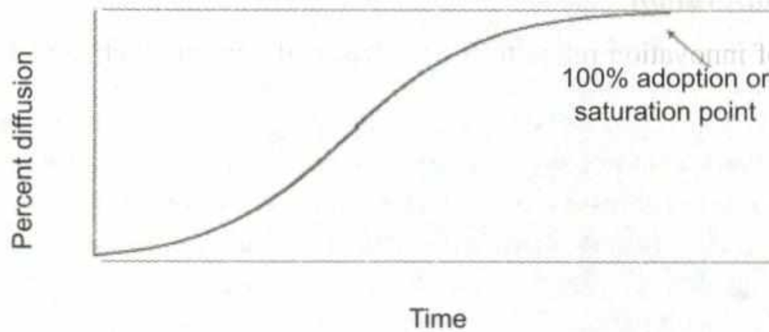


Fig. 3.3

Several specific product categories have case histories that illustrate important issues in adoption. Until sometime in the 1800s, few physicians bothered to scrub prior to surgery, even though new scientific theories predicted that small microbes not visible to the naked eye could cause infection. Younger and more progressive physicians began scrubbing early on, but they lacked the stature to make their older colleagues follow.

- ATM cards spread relatively quickly. Since the cards were used in public, others who did not yet hold the cards could see how convenient they were. Although some people were concerned about security, the convenience factors seemed to be a decisive factor in the "tug-of-war" for and against adoption. The case of credit cards was a bit more complicated and involved a "chicken-and-egg" paradox. Accepting credit cards was not a particularly attractive option for retailers until they were carried by a large enough number of consumers. Consumers, in contrast, were not particularly interested in cards that were not accepted by a large number of retailers. Thus, it was necessary to "jump start" the process, signing up large corporate accounts, under favourable terms, early in the cycle, after which the cards became worthwhile for retailers to accept.
- Rap music initially spread quickly among urban youths in large part because of the low costs of recording. Later, rap music became popular among a very different segment, suburban youths, because of its apparently authentic depiction of an exotic urban lifestyle.
- Hybrid corn was adopted only slowly among many farmers. Although hybrid corn provided yields of about 20% more than traditional corn, many farmers had difficulty believing that this smaller seed could provide a superior harvest. They were usually reluctant to try it because a failed harvest could have serious economic consequences, including a possible loss of the farm. Agricultural extension agents then sought out the most progressive farmers to try hybrid corn, also aiming for farmers who were most respected and most likely to be imitated by others. Few farmers switched to hybrid corn outright from year to year. Instead, many started out with a fraction of their land, and gradually switched to 100% hybrid corn when this innovation had proven itself useful.

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Several forces often work against innovation. One is risk, which can be either social or financial. For example, early buyers of the CD player risked that few CDs would be recorded before the CD player went the way of the 8 track player. Another risk is being perceived by others as being weird for trying a "fringe" product or idea. For example, Barbara Mandrel sings the song "I Was Country When Country Wasn't Cool." Other sources of resistance include the initial effort needed to learn to use new products (e.g., it takes time to learn to meditate or to learn how to use a computer) and concerns about compatibility with the existing culture or technology. For example, birth control is incompatible with religious beliefs that predominate in some areas, and a computer database is incompatible with a large, established card file.

Innovations come in different degrees. A continuous innovation includes slight improvements over time. Very little usually changes from year to year in automobiles, and even automobiles of the 1990s are driven much the same way that automobiles of the 1950s were driven. A dynamically continuous innovation involves some change in technology, although the product is used much the same way that its predecessors were used—e.g., jet vs. propeller aircraft. A discontinuous innovation involves a product that fundamentally changes the way that things are done—e.g., the fax and photocopiers. In general, discontinuous innovations are more difficult to market since greater changes are required in the way things are done, but the rewards are also often significant.

Several factors influence the speed with which an innovation spreads. One issue is relative advantage (i.e., the ratio of risk or cost to benefits). Some products, such as cellular phones, fax machines, and ATM cards, have a strong relative advantage. Other products, such as automobile satellite navigation systems, entail some advantages, but the cost ratio is high. Lower priced products often spread more quickly, and the extent to which the product is trialable (farmers did not have to plant all their land with hybrid corn at once, while one usually has to buy a cellular phone to try it out) influence the speed of diffusion. Finally, the extent of switching difficulties influences speed—many offices were slow to adopt computers because users had to learn how to use them.

Some cultures tend to adopt new products more quickly than others, based on several factors:

- **Modernity:** The extent to which the culture is receptive to new things. In some countries, such as Britain and Saudi Arabia, tradition is greatly valued—thus, new products often don't fare too well. The United States, in contrast, tends to value progress.
- **Homophily:** The more similar to each other that members of a culture are, the more likely an innovation will spread—people are more likely to imitate similar than different models. The two most rapidly adopting countries in the world are the US and Japan. While the US interestingly scores very low, Japan scores high.

- **Physical distance:** The greater the distance between people, the less likely innovation will spread.
- **Opinion leadership:** The more opinion leaders are valued and respected, the more likely an innovation will spread. The style of opinion leaders moderates this influence, however. In less innovative countries, opinion leaders tend to be more conservative, i.e., to reflect the local norms of resistance.

It should be noted that innovation is not always an unqualifiedly good thing. Some innovations, such as infant formula adopted in developing countries, may do more harm than good. Individuals may also become dependent on the innovations. For example, travel agents who get used to booking online may be unable to process manual reservations.

Sometimes innovations are disadopted. For example, many individuals disadopt cellular phones if they find out that they don't end up using them much.

3.4 NEW SERVICE PLANNING AND DEVELOPMENT PROCESS

The following are the strategic decision and design elements which must be considered in the service process planning:

1. Basic technological decision
2. Conversion/ Market decision
3. Specific equipment decision
4. Process flow decision
   - Blue Prints
   - Flowchart
   - Front and Back office
   - Layouts
   - Bench-marks
5. People decision

1. Basic Technological Decision

In some, technology exists but not only in customerised form. So the question arises: whether the technology available can be developed to provide the raw material, process and equipment to deliver the service? For example, at one time it was possible to design printed electronic circuits on small chips, but the technology and specific equipment required to produce the chips are beyond the state of act.

In the same way telephone was invented in 1876, but the technology came into use after 15 years from the invention of telephone dial.

2. Conversion/ Market Decision

The decision on conversion process is complex as it depends upon the technology and market factors, as well as economic conditions. There are many alternative processes and material that will satisfy the design specification. When each person or service supplying a service is dedicated to providing that particular service, efficiency is achieved. However, effectiveness is achieved with the flexibility in the conversion process. In other words the broadest range off service is to be provided by the service provider.

3. Specific Equipment Decision

Technology section is an important decision for any service provider. It should fully support the demand of the product or services as it creates the demand and the requirements for all other parts of the operating system.

It is necessary for a manager to be able to 'visualise' the physical process taking place in order to make intelligent decision about the equipment and process technology.

Types of basic conversion system

The selection of equipment is dependent upon the type of conversion systems that is chosen.

- Fixed position
- Process based and
- Product or Service based

Fixed position conversion is often characteristic of custom, high quality personal service. Example: Beauty treatment, landscaping etc. Higher education is a good example of process-based conversion or batch production in services. Students move in batches from class to class. The conversion system is said to be service-based if the equipment required to serve a customer is arranged in a sequence according to the steps in the service process.

4. Process Flow Decision

It is related to conversion/materials decision and specific equipment decision. The process flow decision is developed on the basis of flow process charts, blue prints, and layouts and benchmarking.

(a) Service Blue Print:

A service blue print is a flowchart of the service process. It is a picture of a service system. It conveys the service concept by showing the service at an overview level. It shows how each job or department functions in relation to the service as a whole.

In preparing a service blue print the following important steps are taken:

- Identify the activates involved in developing the service and present them in a diagrammatic form.
- Identify the failure points. Develop a system and procedure to reduce the likelihood of their occurring in the first instance.
- Set standards for measuring the performance.
- Analyze the profitability of the service delivered.

The blueprinting exercise also gives the managers the opportunity to identify the potential point of failure and design "foolproof" procedure so that they may not occur again.

Thus, a blue print is a precise definition of the service delivery system that allows the management to test the service concept before final commitments are made. By identifying potential points of failure and highlighting opportunities to enhance customer's perception of the service, the blue print facilitates problem solving and creative thinking.

(b) Uses of Service Blue Prints

Managers employ the concept of blue prints to assist in the decision-making activities associated with strategy setting, allocation of resources, integration of service functions and overall evaluation of performance. Blue prints are used by marketing managers in developing advertising and sales promotion campaigns. Details service blue prints are useful to marketing and communication people.

The marketing managers can employ them in consumer research. They can also use them as a starting point for development of consumer material in order to convey invisible actions.

When it is time to shift the new services from R&D into routine operation, the marketing manager performing an R&D function can use detailed blue prints in order to communicate operational details. Detailed service blue prints can be used by human resources managers in preparing job description, selection criteria, and performance appraisal system and compensation schemes.

(c) Service Mapping/Flow charting

Flow charting can be applied to any type of service when a management needs to gain a better understanding of how the service is created and delivered. It is also known as service mapping when portraying an existing situation and service blueprinting, when planning a new or revised process and prescribing how it ought to function.

Developing a flow chart begins by identifying each interaction that a particular type of customer has while using a specific service. Managers should distinguish between the core products and supplementary elements.

The next stage is to pull at these interactions linearly into the sequence in which they occur. The service delivery process is like a river, some activities take upstream and others downstream.

It is seen that flow charting provides a means for managers to gain understanding of the underlying services processes and is the first step necessary in exercising control over such procedures.

(d) Front and Back Office

The front office is that part of the system which is directly experienced and visible to the customer. This is the place where the actual service is performed.

That part of the system from which the office is excluded is the back office. E.g. Kitchen in a restaurant. It is the manufacturing side of the service that is not visible to the customer. There are certain services like banks where the back office is visible to the customer.

(e) Layouts

The layouts of a service organization can be process layout, product layout or group layout. In process layout the resources are arranged according to the particular state in the process that is to be applied to the customer. It allows the servers to specialize at particular tasks.

In product layout the requirements of specific group of customers are identified and only then the resources are sequentially set-up so that the customers flow through the system and move from one system to another until the service is complete. E.g. Car servicing.

(f) Benchmarking

Benchmarking is defined as measuring the performance of a business against that of the strongest competition in order to establish "best practice". It can be applied at three levels.

- Internal benchmarking can be carried out on the large organization by way of comparisons between operations units. Thus, a financial institution might benchmark across branches, different hospitals under the same health authority, different colleges under the same education authority etc.
- At the second level competitive benchmarking can be used. Competitive benchmarking is used where comparisons are made directly with the competitive organizations. Here the owner or the director can pose as a customer and directly participate in the process. However, this is done in an informal way. A comparative impression is gained of the service without examining the different facets.
- The third approach is functional or generic benchmarking. It compares specific functions such as distribution and after-sales service. In this the advantage is that the information is easier to obtain than with competitors.

In order to measure the performance care has to be taken in selecting the dimensions and scales to be used. This has been seen in education where, on occasions there has been focus on output measure i.e. the number of external examination passes. The concept of value addition can be introduced in this situation examining the difference between output and input.

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The benchmarking process is shown in the figure below:

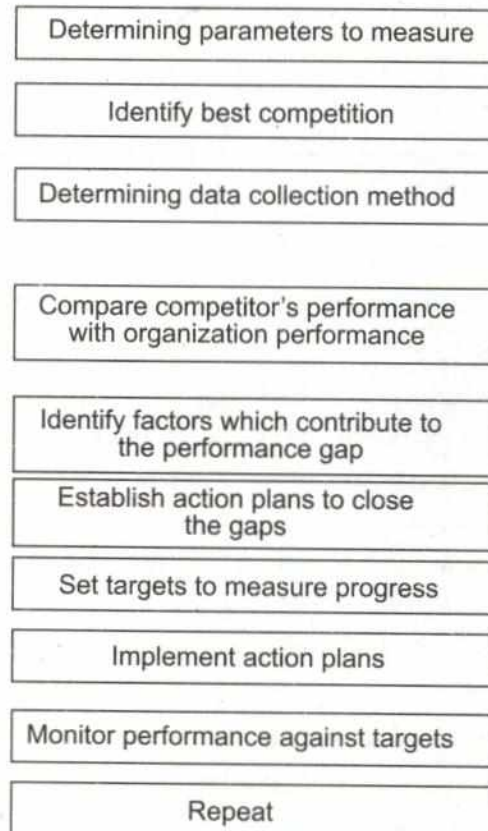


Fig. 3.4

5. People Decision

The decision regarding people means determining the number of people, their skills, and labour cost. Many times people's decision are made on the assumption that people may be hired any way. A firm may have sophisticated technology but it is the people who manage them and therefore in people decision knowledgeable and motivated workforce cannot be overlooked.

3.5 SERVICE LIFE CYCLE

Services often go through a life cycle. The figure given below shows the key stages of services life cycle. Initially, a service is introduced.

Check Your Progress

1. Define product.
2. What is product range?
3. What do you mean by benchmarking?

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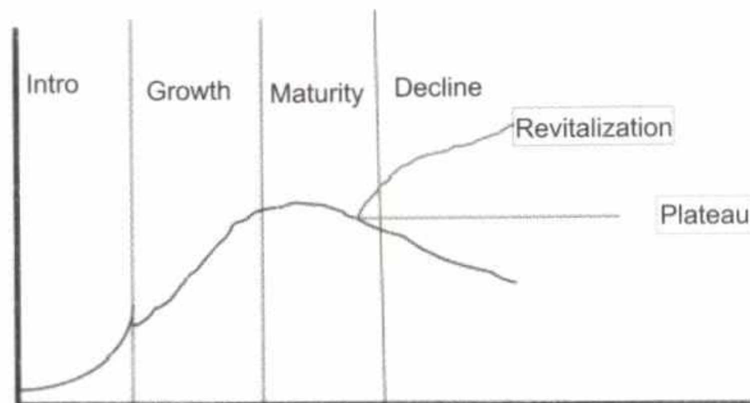


Fig. 3.5

The common stages a product or service may go through during its life are introduction, growth, maturity, and decline or innovation.

1. **Introduction stage:** Profits are low in this stage because research and development, production, and marketing costs are high. Prices are set high on the product or service to recoup some of the development and introduction costs. For example, microwave ovens that can now be purchased for $50 were priced between $2,000 and $3,000 when they were first introduced. In this stage, you'll want to keep a close watch on the market's reaction to your products and services and be ready to make changes. It sometimes helps to experiment with several different product and service configurations to see what works in these early stages.
2. **Growth stage:** Sales generally increase with the demand for the product. Cash flow improves and profits are at their peak. When real estate is being developed, there is an increased demand for construction and the products and services that support the development. Continue to make refinements to stay ahead of the competition. Build product and service development capabilities with the cash you get from increasing sales.
3. **Maturity stage:** Sales may continue to increase or level off. Profits decrease since prices are continually lowered to compete. Still, a great amount of cash flow is generated through sales. Conduct market research to determine trends. Invest in research and development. Adapt your product or service to meet the coming trends. If you don't look for new opportunities in new markets and new products, the coming decline stage will leave you with products and services that no longer sell.
4. **Decline or innovation stage:** Sales drop rapidly even though prices continue to fall. Profits are extremely low at this stage, but the product or service has generated sufficient cash flow during its life. When a product or service hits this stage many entrepreneurs reintroduce it with a new feature or create a new

benefit. Simply increasing the size of a candy bar by 33 percent can start its life cycle over again. Consider making changes to your product or service or the way you market it. You may decide to discontinue your product or service before losses eat into the cash flow generated by sales.

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Knowing where your products or services are in their life cycle will help you determine refinements or adjustments you may need to make to align them with the vision and strategy you have already developed.

Case Study: Life cycle of Video Game Consoles

The rise of personal computers in the mid 1980s spurred interest in computer games. This caused a crash in the home video game market. Interest in video games was rekindled when a number of different companies developed hardware consoles that provided graphics superior to the capabilities of computer games. By 1990, the Nintendo Entertainment System dominated the product category. Sega surpassed Nintendo when it introduced its Genesis System. By 1993, Sega commanded almost 60 per cent of video game market and was one of the most recognized brand names among the children.

Sega's success was short lived. In 1995, Saturn (a division of General Motors) launched a new 32-bit system. The product was a miserable failure for a number of reasons. Sega was the primary software developer for Saturn and it did not support efforts by outside game developers to design compatible games. In addition, Sega's games were often delivered quite late to retailers. Finally, the price of the Saturn system was greater than other comparable game consoles.



This situation of Saturn's misstep benefited Nintendo and Sony greatly. Sony's Play Station was unveiled in 1994 and was available in 70 million homes worldwide by the end of 1999. Its "Open design" encouraged the efforts of outside

developers, resulting in almost 3,000 different games that were compatible with the PlayStation. It too featured 32-bit graphics that appealed to older audience. As a result, at one time, more than 30 per cent of PlayStation owners were over 30 years old.

Nintendo 64 was introduced in 1996 and had eye-popping 64-bit graphics and entered in more than 28 million homes by 199[illegible]. Its primary users were between the age of 6 and 13 as a result of Nintendo's efforts to limit the amount of violent and adult-oriented material featured on games that can be played on its systems. Because the company exercised considerable control over software development, Nintendo 64 had only one-tenth the number of compatible games as Sony's PlayStation did.

By 1999, Sony had captured 56 per cent of the video game market, followed by Nintendo with 42 per cent. Sega's share had fallen to a low of 1%. Hence, Sega had two options, either to concede defeat or introduce an innovative video machine that would bring in huge sales. And Sega had to do so before either Nintendo or Sony could bring their next-generation console to market. The Sega Dreamcast arrived in stores in September 1999 with an initial price tag of $199. Anxious gamers placed 300,000 advance orders, and initial sales were quite encouraging. A total of 1.5 million Dreamcast machines were bought within the first four months, and initial reviews were positive. The 128-bit system was capable of generating 3-D visuals, and 40 different games were available within three months of Dreamcast's introduction.

By the end of the year, Sega had captured a market share to 15 per cent. But the Dreamcast could not sustain its momentum. Although its game capabilities were impressive, the system did not deliver all the functionality Sega had promised. A 56K modem (which used a home phone line) and a Web browser were meant to allow access to the Internet so that gamers could play each other online, surf the Web, and visit the Dreamcast Network for product information and playing tips. Unfortunately, these features either were not immediately available or were disappointing in their execution.

Sega was not the only one in having the strategy of adding functionality beyond games. Sony and Nintendo followed the same approach for their machines introduced in 1999. Both Nintendo's Neptune and Sony's PlayStation 2 (PS2) were built on a DVD platform and featured a 128-bit processor. Analysts applauded the move to DVD because it is less expensive to produce and allows more storage than CDs. It also gives buyers the ability to use the machine as CD music player and DVD movie player. As Sony marketing director commented, "The full entertainment offering from Play Station 2 definitely appeals to a much broader audience. I have friends in their 30s who bought it not only because it's a gaming system for their kids, but also a DVD for them." In addition, PlayStation 2 is able to play games developed for its earlier model that was CD-based. This

gives the PS2 an enormous advantage in the number of compatible game titles that were immediately available to gamers. Further enhancing the PS2's appeal is its high-speed modem and allows the users easy access to the Internet through digital cable as well as over telephone lines. This gives Sony the ability to distribute movies, music, and games directly to PS2 consoles. "We are positioning this as an all-round entertainment player," commented Ken Kutaragi, the head of Sony Computer Entertainment. However, some prospective customers were put off by the console's initial price of $360.

Shortly after the introduction of Neptune, Nintendo changed its strategies and announced the impending release of its newest game console, The GameCube. However, unlike the Neptune, the GameCube would not run on a DVD platform and also would not initially offer any online capabilities. It would be more attractively priced at $199. A marketing vice-president for Nintendo explained the company's change in direction, "We are the only competitor whose business is video games. We want to create the best gaming system." Nintendo also made the GameCube friendly for outside developers and started adding games that included sports titles to attract an older audience. Best known for its extraordinary successes with games aimed at the younger set, such as Donkey Kong, Super Mario Bros, and Pokemon, Nintendo sought to attract older users, especially because the average video game player is 28. Youthful Nintendo users were particularly pleased to hear that they could use their handheld Game Boy Advance systems as controllers for the GameCube.

Nintendo scrambled to ensure there would be an adequate supply of GameCubes on the date in November 2001, when they were scheduled to be available to customers. It also budgeted $450 million to market its new product, as it anticipated stiff competition during the holiday shopping season. With more than 20 million PlayStation 2 sold worldwide, the GameCube as a new entry in the video game market would make the battle for market share even more intense.

For almost a decade, the video game industry had only Sega, Nintendo, and Sony; just three players. Because of strong brand loyalty and high product development costs, newcomers faced a daunting task in entering this race and being competitive.

In November 2001, Microsoft began selling its new Xbox, just three days before the GameCube made its debut. Some observers felt the Xbox was aimed to rival PlayStation 2, which has similar functions that rival Microsoft's Web TV system and even some lower level PCs. Like the Sony's PlayStation 2, Xbox was also built using a DVD platform, but it used an Intel processor in its construction. This open design allowed Microsoft to develop the Xbox in just two years, and gave developers the option of using standard PC tool for creating compatible games. In addition, Microsoft also sought the advice of successful game developers and even incorporated some of their feedback into the design of the console and its controllers. As a result of developers efforts, Microsoft had about 20 games

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ready when the Xbox became available. By contrast, The GameCube had only eight games available.

Microsoft online strategy was another feature that differentiated the Xbox from the GameCube. Whereas Nintendo had no immediate plans for Web-based play, the Xbox came equipped with an Ethernet port for broadband access to Internet. Microsoft also announced its own Web-based network on which gamers can come together for online head-to-head play and for organised online matches and tournaments. Subscribers to this service were to pay a small monthly fee and must have high-speed access to the Internet. This is a potential drawback considering that a very low percentage of households world over currently have broadband connections.

By contrast Sony promoted an open network, which allows software developers to manage their own games, including associated fees charged to users. However, interested players must purchase a network adapter for an additional $39.99. Although game companies are not keen on the prospect of submitting to the control of a Microsoft-controlled network, it would require a significant investment for them to manage their own service on the Sony-based network.

Initially the price of Microsoft's Xbox was $299. Prior to the introduction of Xbox, in a competitive move Sony dropped the price of the PlayStation 2 to $299. Nintendo's GameCube already enjoyed a significant price advantage, as it was selling for $100 less than either Microsoft or Sony products.

Gamers eagerly snapped up the new consoles and made 2001 the best year ever for video game sales. For the first time, consumers spent $9.4 billion on video game equipment, which was more than they did at the box office. By the end of 2001 holiday season, 6.6 million PlayStation 2 consoles had been sold in North America alone, followed by 1.5 million Xbox units and 1.2 million GameCubes.

What ensued was an all out price war. This started when Sony decided to put even more pressure on the Microsoft's Xbox by cutting the PlayStation 2 price to $199. Microsoft quickly matched that price. Wanting to maintain its low-price status, Nintendo in turn responded by reducing the price of its GameCube by $50, to $149.

By mid 2002, Microsoft Xbox had sold between 3.5 and 4 million units worldwide. However, Nintendo had surpassed Xbox sales by selling 4.5 million GameCubes. Sony had the benefit of a healthy head start, and had shipped 32 million PlayStation 2s. However, seven years after the introduction of original PlayStation, it was being sold in retail outlets for a mere $49. It had a significant lead in terms of numbers of units in homes around the world with a 43 per cent share. Nintendo 64 was second with 30 per cent, followed by Sony PlayStation 2 with 14 per cent. The Xbox and GameCube each claimed about 3 per cent of the market, with Sega Dreamcast comprising the last and least market share of 4.7 per cent.

Sega, once an industry leader, announced in 2001 that it had decided to stop producing the Dreamcast and other video game hardware components. The company said it would develop games for its competitors' consoles. Thus Sega slashed the price of the Dreamcast to just $99 in an effort to liquidate its piled up inventory of more than 2 million units and immediately began developing 11 new games for the Xbox, four for PlayStation 2, and three for Nintendo's GameBoy Advance.

As the prices of video game consoles have dropped, consoles and games have become the equivalent of razors and blades. This means the consoles generate little if any profit, but the games are a highly profitable proposition. The profit margins on games are highly attractive, affected to some degree by whether the content is developed by the console maker (such as Sony) or by an independent game publisher (such as Electronic Arts). Thus, the competition to develop appealing, or perhaps even addictive, games may be even more intense than the battle among players to produce the best console. In particular, Nintendo, Sony, and Microsoft want games that are exclusive to their own systems. With that in mind, they not only rely on large in-house staffs that design games but they also pay added fees to independent publishers for exclusive rights to new games.

The sales of video games in 2001 rose to 43 per cent, compared to just 4 per cent increase for computer-based games. But computer game players are believed to be a loyal bunch, as they see many advantages in playing games on their computers rather than consoles. For one thing, they have a big advantage of having access to a mouse and a keyboard that allow them to play far more sophisticated games. In addition, they have been utilising the Internet for years to receive game updates and modifications and to play each other over the Web.

Sony and Microsoft are intent on capturing a portion of the online gaming opportunity. Even Nintendo has decided to make available a modem that will allow GameCube users to play online. As prices continue to fall and technology becomes increasingly more sophisticated, it remains to be seen whether these three companies can keep their names on the industry's list of "high scorers".

Questions For Discussion

1. Considering the concept of product life cycle, where would you put video games in their life cycle?
2. What are the implications of each product's life cycle stage?
3. Should video game companies continue to alter their products to include other functions, such as e-mail?

Credit: Marketing Management-BU (*Marketing Management: Text and Cases* By *S.H.H. Kazmi*)

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3.6 BCG PRODUCT PORTFOLIO CONCEPT AND USE

Boston Consulting Group (BCG) Matrix is a four celled matrix (a 2 × 2 matrix) developed by BCG, USA. It is the most renowned corporate portfolio analysis tool. It provides a graphic representation for an organization to examine different businesses in its portfolio on the basis of their related market share and industry growth rates. It is a two dimensional analysis on management of SBUs (Strategic Business Units). In other words, it is a comparative analysis of business potential and the evaluation of environment.

According to this matrix, business could be classified as high or low according to their industry growth rate and relative market share.

Relative Market Share = SBU sales this year – leading competitors sales this year.

Market Growth Rate = Industry sales this year – Industry sales last year.

The analysis requires that both measures be calculated for each SBU. The dimension of business strength, relative market share, will measure comparative advantage indicated by market dominance. The key theory underlying this is existence of an experience curve and that market share is achieved due to overall cost leadership.

BCG matrix has four cells, with the horizontal axis representing relative market share and the vertical axis denoting market growth rate. The mid-point of relative market share is set at 1.0. if all the SBUs are in same industry, the average growth rate of the industry is used. While, if all the SBUs are located in different industries, then the mid-point is set at the growth rate for the economy.

Resources are allocated to the business units according to their situation on the grid. The four cells of this matrix have been called as stars, cash cows, question marks and dogs. Each of these cells represents a particular type of business.

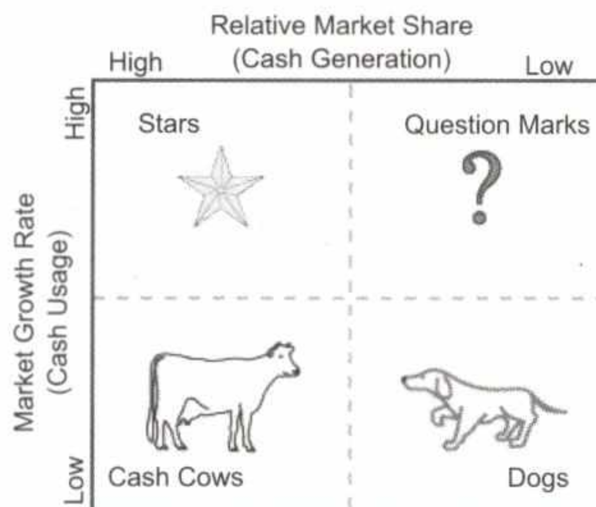


Fig. 3.6: BCG Matrix

- **Stars:** Stars represent business units having large market share in a fast growing industry. They may generate cash but because of the fast growing market, stars require huge investments to maintain their lead. Net cash flow is usually modest. SBUs located in this cell are attractive as they are located in a robust industry and these business units are highly competitive in the industry. If successful, a star will become a cash cow when the industry matures.
- **Cash Cows:** Cash cows represents business units having a large market share in a mature, slow growing industry. Cash cows require little investment and generate cash that can be utilized for investment in other business units. These SBUs are the corporation's key source of cash, and are specifically the core business. They are the base of an organization. These businesses usually follow stability strategies. When cash cows loose their appeal and move towards deterioration, then a retrenchment policy may be pursued.
- **Question Marks:** Question marks represent business units having low relative market share and located in a high growth industry. They require huge amount of cash to maintain or gain market share. They require attention to determine if the venture can be viable. Question marks are generally new goods and services which have a good commercial prospective. There is no specific strategy which can be adopted. If the firm thinks it has a dominant market share, then it can adopt expansion strategy, else retrenchment strategy can be adopted. Most businesses start as question marks as the company tries to enter a high growth market in which there is already a market-share. If ignored, then question marks may become dogs, while if huge investment is made, then they have potential of becoming stars.
- **Dogs:** Dogs represent businesses having weak market shares in low-growth markets. They neither generate cash nor require huge amount of cash. Due to low market share, these business units face cost disadvantages. Generally retrenchment strategies are adopted because these firms can gain market share only at the expense of competitor's/rival firms. These business firms have weak market share because of high costs, poor quality, ineffective marketing, etc. Unless a dog has some other strategic aim, it should be liquidated if there are fewer prospects for it to gain market share. Number of dogs should be avoided and minimized in an organization.

Case Study on Apple's Business Strategies

We can describe Apple's strategy in terms of product differentiation and strategic alliances.

Product Differentiation

Apple prides itself on its innovation. When reviewing the history of Apple, it is evident that this attitude permeated the company during its peaks of success. For

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instance, Apple pioneered the PDA market by introducing the Newton in 1993. Later, Apple introduced the easy-to-use iMac in 1998, and updates following 1998. It released a highly stable operating system in 1999, and updates following 1999. Apple had one of its critical points in history in 1999 when it introduced the iBook. This completed their "product matrix", a simplified product mix strategy formulated by Jobs. This move allowed Apple to have a desktop and a portable computer in both the professional and the consumer segments. The matrix is as follows:



	Professional Segment	Consumer Segment
Desktop	G3	iMac
Portable	PowerBook	iBook

In 2001, Apple hit another important historical point by launching iTunes. This marked the beginning of Apple's new strategy of making the Mac the hub for the "digital life style". Apple then opened its own stores, in spite of protests by independent Apple retailers voicing cannibalization concerns. Then Apple introduced the iPod, central to the "digital lifestyle" strategy. Philip W. Schiller, VP of Worldwide Product Marketing for Apple, stated, "iPod is going to change the way people listen to music." He was right.

Apple continued their innovative streak with advancements in flat-panel LCDs for desktops in 2002 and improved notebooks in 2003. In 2003, Apple released the iLife package, containing improved versions of iDVD, iMovie, iPhoto, and iTunes. In reference to Apple's recent advancements, Jobs said, "We are going to do for digital creation what Microsoft did for the office suite productivity." That is indeed a bold statement. Time will tell whether that happens.

Apple continued its digital lifestyle strategy by launching iTunes Music Store online in 2003, obtaining cooperation from "The Big 5" Music companies—BMG, EMI, Sony Entertainment, Universal, Warner. This allowed iTunes Music Store online to offer over 200,000 songs at introduction. In 2003, Apple released the world's fastest PC (Mac G5), which had dual 2.0GHz PowerPC G5 processors.

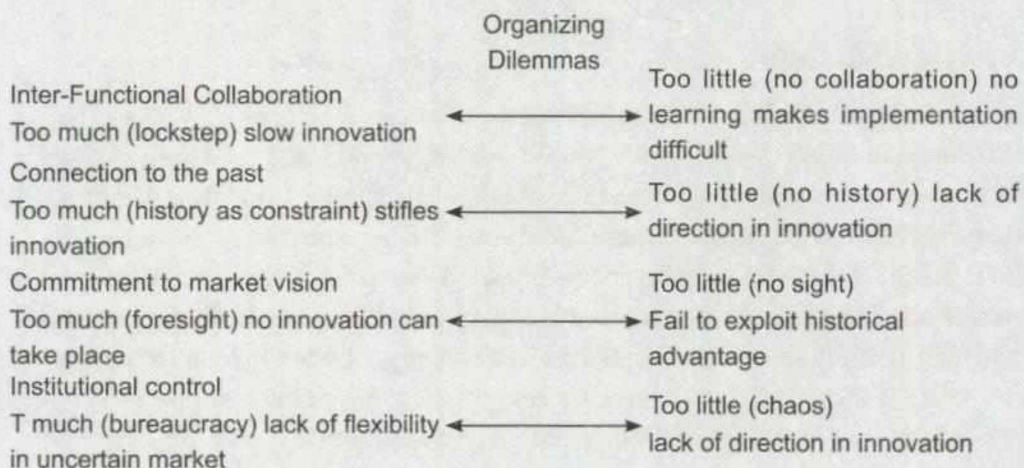
Product differentiation is a viable strategy, especially if the company exploits the conceptual distinctions for product differentiation. Those that are relevant to Apple are product features, product mix, links with other firms, and reputation. Apple established a reputation as an innovator by offering an array of easy-to-use products that cover a broad range of segments. However, its links with other firms have been limited, as we will discuss in the next section on strategic alliances.

There is economic value in product differentiation, especially in the case of monopolistic competition. The primary economic value of product differentiation comes from reducing environmental threats. The cost of product differentiation acts as a barrier to entry, thus reducing the threat of new entrants. Not only does a company have to bear the cost of standard business, it also must bear the costs associated with overcoming the differentiation inherent in the incumbent. Since companies pursue niche markets, there is a reduced threat of rivalry among industry competitors.

A company's differentiated product will appear more attractive relative to substitutes, thus reducing the threat of substitutes. If suppliers increase their prices, a company with a differentiated product can pass that cost to its customers, thus reducing the threat of suppliers. Since a company with a differentiated product competes as a quasi-monopoly in its market segment, there is a reduced threat of buyers. With all of Porter's Five Forces lower, a company may see economic value from a product differentiation strategy.

A company attempts to make its strategy a sustained competitive advantage. For this to occur, a product differentiation strategy that is economically valuable must also be rare, difficult to imitate, and the company must have the organization to exploit this. If there are fewer firms differentiating than the number required for perfect competition dynamics, the strategy is rare. If there is no direct, easy duplication and there are no easy substitutes, the strategy is difficult to imitate.

There are four primary organizing dilemmas when considering product differentiation as a strategy. They are as depicted below.



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To resolve these dilemmas, there must be an appropriate organization structure. A U-Form organization resolves the inter-functional collaboration dilemma if there are product development and product management teams. Combining the old with the new resolves the connection to the past dilemma. Having a policy of experimentation and a tolerance for failure resolves the commitment to market vision dilemma. Managerial freedom within broad decision-making guidelines will resolve the institutional control dilemma.

Five leadership roles will facilitate the innovation process: Institutional Leader, Critic, Entrepreneur, Sponsor, and Mentor. The institutional leader creates the organizational infrastructure necessary for innovation. This role also resolves disputes, particularly among the other leaders. The critic challenges investments, goals, and progress. The entrepreneur manages the innovative unit(s). The sponsor procures, advocates, and champions. The mentor coaches, counsels, and advises.

Apple had issues within its organization. In 1997, when Apple was seeking a CEO acceptable to Jobs, Jean-Louis Gassée (then-CEO of Be, ex-Products President at Apple) commented, "Right now the job is so difficult, it would require a bisexual, blond Japanese who is 25 years old and has 15 years' experience!" Charles Haggerty, then-CEO of Western Digital, said, "Apple is a company that still has opportunity written all over it. But you'd need to recruit God to get it done." Michael Murphy, then-editor of California Technology Stock Letter, stated, "Apple desperately needs a great day-to-day manager, visionary, leader and politician. The only person who's qualified to run this company was crucified 2,000 years ago."

Since Jobs took over as CEO in 1997, Apple seems to have resolved the innovation dilemmas, evidenced by their numerous innovations. To continue a product differentiation strategy, Apple must continue its appropriate management of innovation dilemmas and maintain the five leadership roles that facilitate the innovation process.

Strategic Alliances

Apple has a history of shunning strategic alliances. On June 25, 1985, Bill Gates sent a memo to John Sculley (then-CEO of Apple) and Jean-Louis Gassée (then-Products President). Gates recommended that Apple license Macintosh technology to 3-5 significant manufacturers, listing companies and contacts such as AT&T, DEC, Texas Instruments, Hewlett-Packard, Xerox, and Motorola. (Linzmayer, 245-8). After not receiving a response, Gates wrote another memo on July 29, naming three other companies and stating, "I want to help in any way I can with the licensing. Please give me a call." In 1987, Sculley refused to sign licensing contracts with Apollo Computer. He felt that up-and-coming rival Sun Microsystems would overtake Apollo Computer, which did happen.

Then, Sculley and Michael Spindler (COO) partnered Apple with IBM and Motorola on the PowerPC chip. Sculley and Spindler were hoping IBM would buy Apple and put them in charge of the PC business. That never came to fruition, because Apple (with Spindler as the CEO) seemed contradictory and was extraordinarily difficult in business dealings. Apple turned the corner in 1993. Spindler begrudgingly licensed the Mac to Power Computing in 1993 and to Radius (who made Mac monitors) in 1995. However, Spindler nixed Gateway in 1995 due to cannibalization fears. Gil Amelio, an avid supporter of licensing, took over as CEO in 1996. Under Amelio, Apple licensed to Motorola and IBM. In 1996, Apple announced the $427 million purchase of NeXT Software, marking the return of Steve Jobs. Amelio suddenly resigned in 1997, and the stage was set for Jobs to resume power.

Jobs despised licensing, calling cloners "leeches". He pulled the plug, essentially killing its largest licensee (Power Computing). Apple subsequently acquired Power Computing's customer database, Mac OS license, and key employees for $100 million of Apple stock and $10 million to cover debt and closing costs. The business was worth $400 million.

A massive reversal occurred in 1997 and 1998. In 1997, Jobs overhauled the board of directors and then entered Apple into patent cross-licensing and technology agreements with Microsoft. In 1998, Jobs stated that Apple's strategy is to "focus all of our software development resources on extending the Macintosh operating system. To realize our ambitious plans we must focus all of our efforts in one direction." This statement was in the wake of Apple divesting significant software holdings (Claris/FileMaker and Newton).

There is economic value in strategic alliances. In the case of Apple, there was the opportunity to manage risk and share costs facilitate tacit collusion, and manage uncertainty. It would have been applicable to the industries in which Apple operated. Tacit collusion is a valid source of economic value in network industries, which the computer industry is. Managing uncertainty, managing risk, and sharing costs are sources of economic value in any industry. Although Apple eventually realized the economic value of strategic alliances, it should have occurred earlier.

The following are some comments about Apple's no-licensing policy.

"If Apple had licensed the Mac OS when it first came out, Window wouldn't exist today." – Jon van Bronkhorst, "The computer was never the problem. The company's strategy was. Apple saw itself as a hardware company; in order to protect our hardware profits, we didn't license our operating system. We had the most beautiful operating system, but to get it you had to buy our hardware at twice the price. That was a mistake. What we should have done was calculate an appropriate price to license the operating system. We were also naïve to think that the best technology would prevail. It often doesn't." – Steve Wozniak, Apple cofounder.

"If we had licensed earlier, we would be the Microsoft of today." – Ian W. Diery, Apple Executive VP, I am aware that I am known as the Great Satan on licensing…I was never for or against licensing. I just did not see how it would make sense. But my approach was stupid. We were just fat cats living off a business that had no competition." - Jean-Louis Gassée, Be CEO and ex-CEO of Apple, admitting he made a strategic mistake.

A strategic alliance can be a sustained competitive advantage if it is rare, difficult to imitate, and the company has an organization to exploit it. If the number of competing firms implementing a similar strategic alliance is relatively few, the strategy is rare. If there are socially complex relations among partners and there is no direct duplication, the strategy is difficult to imitate. When organizing for strategic alliances, a firm must consider whether the alliance is non-equity or equity. A non-equity alliance should have explicit contracts and legal sanctions. An equity alliance should have contracts describing the equity investment. There are some substitutes for an equity alliance, such as internal development and acquisitions. However, the difficulties with these drive the formation of strategic alliances. It is vital to remember, "Commitment, coordination, and trust are all important determinants of alliance success."

Source: *http://www.mbaknol.com/management-case-studies/case-study-on-apples-business-strategies/*

3.7 PRICE MIX DECISION

Price is one of the important variables in the marketing mix. Its importance has increased substantially over the years because of the environmental factors like recession, intensity in inter-firm rivalry and the customer becoming more aware of alternatives. Firms also have to educate customers on what to look for in the product and many of the buyers today use sophisticated methods in collecting information on suppliers just as the latter do. In order to arrive at the most acceptable price level, the marketer needs to have information on the three Cs- customers, competition and firm's cost structure. It should be able to use this information to achieve its goals.

In the contemporary market environment characterized by increasing inter-firm rivalry, low or no government intervention in corporate decisions, improvements in communications and media and a growing concern to retain wholesalers and retailers to market the firm's products, pricing decisions appear at the center-stage. Many marketers find difficulty in taking pricing decisions or justifying them to their customers.

Pricing is one of the important elements of marketing mix, but lately, it has come to occupy the center-stage in marketing wars. The reasons for this are:

- **Product differentiation getting blunted:** As technologies get standardized, differentiation among firms on the basis of the product is going to get blunted. More products and brands will transcend to a commodity situation.

- **Intensity in inter-firm rivalry:** The intensity in inter-firm rivalry increases as the entry and exit barriers in the industry are lowered. With an increase in this rivalry, we find that a firm's cost of operation also increases as it now has to spend more money to lure the customers and the middlemen. It has to invest money in new product development (NPD).
- **Matured products and markets:** When the products enter the maturity stage and the markets are also matured, the only way to differentiate various offers is on the basis of augmented service or price cuts. Many firms opt for the latter and then find their bottom lines getting eroded.
- **Customers value perception:** Another factor contributing to the importance of pricing decisions is the customer's perception of the product's current and potential value. To a customer, price always represents the product's value. Many a time, the customer's perception of the product value may not necessarily be in line with its price.
- **Inflation in the economy:** Pricing decisions become important in the inflationary economy. Inflation affects pricing in two ways—one, it lowers the purchasing power of the customer and hence a search for low priced substitutes, and two, it increases a firm's costs because of the inputs costing more, thus forcing the price of the product upwards.

In determining the prices of services, the one characteristic which has great impact is their perishability and the fact that fluctuations in demand cannot be met through inventory. Hotels and airlines offering low rates in off-season are examples of how pricing strategy can be used to offset the perishable characteristics of services.

Another characteristic of services that creates a problem in price determination is the high content of the intangible component. The higher the intangibility, the more difficult it is to calculate cost and greater the tendency towards non-uniform services, such as fees of doctors, management consultants, lawyers. In such cases, the price may sometimes be settled through negotiation between the buyer and seller. On the other hand, in services such as dry cleaning, the tangible component is higher, and the service provided is homogeneous. It is easier to calculate the cost on a unit basis and have a uniform pricing policy. In general, the more unique a service the greater the freedom to fix the price at any level. Often the price may be fixed according to the customer's ability to pay. In such cases price may be used as an indicator of quality.

The third characteristic to be kept in mind while determining prices is that in many services, the prices are subject to regulations, either by the government or by trade associations. Bank charges, electricity and water rates, fare for rail and air transport in India are controlled by the government. In many other cases, the trade or industry association may regulate prices in order to avoid undercutting and to maintain quality standards. International air fares are regulated by international agreement of airlines, sea freight fares may be regulated by shipping conferences. In all such cases, the producer has no freedom to determine his own price.

The two methods which a service organization may use to determine prices are cost-based pricing and market-oriented pricing. In the former, the price may be regulated by the government or industry association on the basis of the cost incurred by the most efficient unit. Such a pricing strategy is effective in restricting entry and aiming at minimum profit targets. The market-oriented pricing may either be a result of the competition or customer-oriented. In case of competition-oriented pricing, the price may be fixed at the level which the competitor is charging, or fixed lower to increase market share. Customer-oriented pricing varies according the two customer's ability to pay.

3.8 PRICING: OBJECTIVES AND METHODS

Price still remains one of the most important elements determining company market share and profitability. Generally, prices were set by buyers and sellers negotiating with each other. Setting one price for all buyers is a relatively modern idea. Price is the only element in the marketing mix that produces revenue. Price is also one of the most flexible elements of the marketing mix. At the same time, pricing and price competition are the number-one problems faced by many marketing executives. Yet many companies do not handle pricing well. The most common mistakes are these: Pricing is too cost-oriented; price is not revised often enough to capitalize on market changes; price is set independent of the rest of the marketing mix rather than as an intrinsic element of market-positioning strategy; and price is not varied enough for different product items, market segments, and purchase occasions.

Companies handle pricing in a variety of ways. In small companies, prices are often set by top management rather than by marketing or salespeople. In large companies, pricing is typically handled by division and production managers. Top management sets the general pricing objective and policies and often approves the prices proposed by lower levels of management. In industries where pricing is a key factor (aerospace, railroads, oil companies), companies will often establish a pricing department to set prices or assist others in determining appropriate prices. This department reports either to the marketing department, finance department, or top management. Others who exert an influence on pricing include sales managers, production managers, finance managers, and accountants.

Pricing Objective

The company first has to decide what it wants to accomplish with the particular product. If the company has selected its target market and market positioning carefully, then its marketing-mix strategy, including price, will be fairly straightforward. For example, if a recreational-vehicle company wants to produce a luxurious truck camper for affluent customers, this implies charging a high price. Thus pricing strategy is largely determined by the prior decision on market positioning.

At the same time, the company might pursue additional objectives. The clearer a firm's objectives, the easier it is to set price. Each possible price will have a different

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impact on such objectives as profits, sales revenue, and market share. A company can pursue any of six major objectives through its pricing.

- Survival
- Maximum Current Profit
- Maximum Current Revenue
- Maximum Sales Growth
- Maximum Market Skimming
- Product-Quality Leadership

Pricing Method

Given the three Cs—the customers' demand schedule, the cost function, and competitors' prices—the company is now ready to select a price. The price will be somewhere between one that is too low to produce a profit and one that is too high to produce any demand. Customers' assessment of unique product features in the company's offer establishes the ceiling price. Companies resolve the pricing issue by selecting a pricing method that includes one or more of these three considerations. The pricing methods will then lead to a specific price. We will examine the following price-setting methods: markup pricing, target-return pricing, perceived-value pricing, value pricing, going-rate pricing, and sealed-bid pricing.

- ***Markup Pricing:*** The most elementary pricing method is to add a standard markup to the product's cost. Construction companies submit job bids by estimating the total project cost and adding a standard markup for profit. Lawyers, accountants, and other professionals typically price by adding a standard markup to their costs. Some sellers tell their customers they will charge their cost plus a specified markup; for example, aerospace companies price this way to the government. Markups are generally higher on seasonal items (to cover the risk of not selling), specialty items, slower moving items, items with high storage and handling costs, and demand-inelastic items. Does the use of standard markups to set prices make logical sense? Generally, no. Any pricing method that ignores current demand, perceived value, and competition is not likely to lead to the optimal price.
- ***Target-Return Pricing:*** The firm determines the price that would yield its target rate of return on investment (ROI). This pricing method is used by public utilities that are constrained to make a fair return on their investment.
- ***Perceived-Value Pricing:*** Companies are basing their price on the product's perceived value. They see the buyers' perceptions of value, not the seller's cost, as the key to pricing. They use the non price variables in the marketing mix to build up perceived value in the buyers' minds. Price is set to capture the perceived value. The key to perceived-value pricing is to accurately determine the market's perception of the offer's value. Sellers with an inflated view of their offer's value will overprice their product. Sellers with an underestimated

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view will charge less than they could. Market research is needed to establish the market's perception of value as a guide to effective pricing.

- ***Value Pricing:*** In recent years, several companies have adopted value pricing by which they charge a low price for a high-quality offering. Value pricing is not the same as perceived-value pricing. The latter is really a "more for more" pricing philosophy. It says that the company should price at a level that captures what the buyer thinks the product is worth. Value pricing, on the other hand, says that the price should represent an extraordinary bargain for consumers. Value pricing is not a matter of simply setting lower prices on one's products compared to competitors. It is a matter of re-engineering the company's operations to truly become the low-cost producer without sacrificing quality, and to lower one's prices significantly in order to attract a large number of value-conscious customers.
- ***Going-Rate Pricing:*** In going-rate pricing, the firm bases its price largely on competitors prices with less attention paid to its own cost or demand. The firm might charge the same, more, or less than its major competitor(s). In oligopolistic industries that sell a commodity such as steel, paper, or fertilizer, firms normally charge the same price. The smaller firms "follow the leader." They change their prices when the market leader's prices change rather than when their own demand or cost changes. Some firms may charge a slight premium or slight discount, but they preserve the amount of difference. Going-rate pricing is quite popular. Where costs are difficult to measure or competitive response is uncertain, firms feel that the going price represents a good solution. The going price is thought to reflect the industry's collective wisdom as to the price that would yield a fair return and not jeopardize industrial harmony.
- ***Sealed Bid Pricing:*** Competitive-oriented pricing is common where firms bid for jobs. The firm bases its price on expectations of how competitors will price rather than on a rigid relation to the firm's costs or demand. The firm wants to win the contract, and winning normally requires submitting a lower price than competitors. Yet the firm cannot set its price below a certain level. It cannot price below cost without worsening its position. On the other hand, the higher it sets its price above its costs, the lower its chance of getting the contract.

3.9 PRICING POLICIES

The pricing policies that may be used to sell services are:

- Differential or flexible pricing
- Discount pricing
- Diversionary pricing
- Guaranteed pricing
- High price maintenance pricing

- Loss leader pricing
- Offset pricing
- Price bundling

Differential or Flexible Pricing

Differential or Flexible Pricing is used to reduce the 'perishability' characteristic of services and iron out the fluctuations in demand. Differential price implies charging different prices according to:

1. Customer's ability to pay differentials (as in professional services of management consultant, lawyers);
2. Price time differentials (used in hotels, airlines, telephones where there is the concept of season and off season and peak hours); and
3. Place differential used in rent of property-theatre seat pricing (balcony tickets are more expensive than front row seats) and houses in better located colonies command high rent.

Discount Pricing

Discount Pricing refers to the practice of offering a commission or discount to intermediates such as advertising agencies, stock brokers, property dealers for rendering a service. It may also be used as a promotional device to encourage use during low-demand time slots or to encourage customers to try a new service (such as an introductory discount).

Diversionary Pricing

Diversionary Pricing refers to a low price which is quoted for a basic service to attract customers. A restaurant may offer a basic meal at a low price but one which includes no soft drink or sweet dish. Once the customer is attracted because of the initial low price he may be tempted to buy a drink or an ice-cream or an additional dish. Thus he may end up buying more than just the basic meal.

Diversionary Pricing

Diversionary Pricing refers to pricing strategy in which payment is to be made only after the results are achieved. Employment agencies charge their fee only when a person actually gets a job, a property dealer charges his commission only after the deal is actually transacted.

High Price Maintenance Pricing

High Price Maintenance Pricing strategy is used when the high price is associated with the quality of the service. Many doctors, lawyers and other professionals follow this pricing strategy.

Loss Leader Pricing

Loss Leader Pricing is one in which an initial low price is charged in the hope of getting more business at subsequently better prices. The danger is that the initial low price may become the price for all times to come.

Offset Pricing

Pricing is quite similar to diversionary pricing in which a basic low price is quoted but the extra services are rather highly priced. A gynecologist may charge a low fee for the nine months of pregnancy through which she regularly checks her patient, but many charge extra for performing the actual delivery and post-delivery visits.

Price Bundling

Some services are consumed more effectively in combination with other services. When customer perceives value in package of services that are interrelated, price bundling is an appropriate strategy. It basically means pricing and selling services as a group rather than individually.

3.10 NEW PRODUCT PRICING STRATEGY

In the entire marketing mix, price is the one element that produces revenue; the others produce costs. Price is also one of the most flexible elements: It can be changed quickly, unlike product features and channel commitments. Although price competition is a major problem facing companies, many do not handle pricing well. The most common mistakes are these: Pricing is too cost-oriented; price is not revised often enough to capitalize on market changes; price is set independent of the rest of the marketing mix rather than as an intrinsic element of market-positioning strategy; and price is not varied enough for different product items, market segments, and purchase occasions.

The different methods of pricing can be grouped under the following categories:-

- Cost-based pricing
- Demand-based pricing
- Competition-oriented pricing
- Differential pricing
- Going rate or "Follow the crowd"

The different pricing methods are explained in detail as follows:

1. Cost-Based Pricing

Under this category, only one approach has been taken into consideration i.e. Mark-up pricing / Cost plus pricing.

Mark-up pricing refers to the pricing method in which the selling price of the product is fixed by adding a margin to the cost price. The mark-ups vary depending on the

nature of products and markets. Usually, the higher the value of the product (unit cost of the product), the larger the mark-up and vice versa. Again, the faster the turn around of the product, the smaller the mark-up and viceversa.

2. Differential Pricing

Some firms charge different prices for the same product in different zones / areas of the market. Sometimes, the differentiation in pricing is made on the basis of customer class rather than marketing territory. Sometimes, the differentiation is on the basis of volume of purchase. Differentiation on the basis of volume is more common than differentiation based on customer class in marketing territory.

3. Going Rate or "Follow the Crowd"

In this method, the firm prices its products at the same level as that of the competition. This method assumes that there will be no price wars within the industry. This is a method commonly used in an oligopolistic market. Despite its advantage of preventing price wars, the method suffers from serious limitations. The first is that, it is not necessarily true that all firms or the leader firm is operating efficiently. In case, it is not, it will mean that the follower firm will also adopt a price level which reflects the leader's inefficiency rather than the firm's efficiency. Besides, it is not always true that a decision taken in collective wisdom is the best. It may certainly not be so from the customer's point of view.

4. Demand / Market-Based Pricing

The following methods belong to the category of demand / market-based pricing:

- 'What The Traffic Can Bear' Pricing
- Skimming Pricing
- Penetration Pricing

The basic feature of all these demand-based methods is that profits can be expected independent of the costs involved, but are dependent on the demand.

'What the Traffic Can Bear' Pricing

As per pricing based on 'what the traffic can bear', the seller takes the maximum price which the customers are willing to pay for the product under the given circumstances. It is not a sophisticated method. It is used more by retail traders than by manufacturing firms.

Skimming Pricing

Skimming pricing aims at high price and high profits in the early stage of marketing the product. As the word skimming indicates, this method literally skims the market in the first instance through high price and subsequently settles down for a lower price.

Sometimes the firm employs this tactic when introducing a product into a competitive market that contains an elite group that is able to pay a higher price. Here a firm uses

a higher than normal price in an effort to quickly recover the initial developmental and promotional costs of the product. Start up cost usually is substantial due to intensive promotional expenses and high initial production costs. The idea is to set a price well above the total unit cost and to promote the product heavily in order to appeal to the segment of the market that is not sensitive to price. Such a pricing tactic often reinforces the unique, prestigious image of a store and projects a quality picture of the product. Another advantage of this technique is that the owner can correct pricing mistakes quickly and easily. If the business sets a price that is too low under a penetration strategy, raising the price can be very difficult. If a business using the skimming strategy sets a price too high to generate sufficient volume, it can always lower the price. Successful skimming strategies require a company to differentiate its products or services from those of the competition, justifying the above average price.

Penetration Pricing

Penetration pricing, as the name indicates, seeks to achieve greater market penetration through relatively low prices. It is the opposite of skimming pricing. This method too is quite useful in pricing of new products under certain circumstances.

To gain quick acceptance and extensive distribution in the mass market, the firm should introduce the product with a low price. In other words, it should set the price just above total unit cost to develop a wedge in the market and quickly achieve a high volume of sales. The resulting low profit margins may discourage other competitors from entering the market with similar products.

In most cases, a penetration strategy is used to introduce relatively low-priced goods into a market with no elite segment and little opportunity for differentiation exists. The introduction is usually accompanied by heavy advertising and promotional techniques, special sales and discounts. Entrepreneurs must recognize that penetration pricing is a long range strategy; until consumers accept the product, profits are likely to be small. If the strategy works and the product achieves mass market penetration, sales volume will increase and the company will earn adequate profits. The objectives of the penetration strategy are to break into the market quickly, to generate high sales volume as soon as possible and to build market share. Many consumer products, such as soap, shampoo, and lightbulbs are introduced to the market through penetration pricing strategies.

5. Competition-Oriented Pricing

In several industries, competition-oriented pricing methods are followed. The methods under this category rest on the principle of competitive parity in the matter of pricing. Competition-based pricing or competitive parity pricing does not, however, mean exactly matching competition.

Three policy alternatives are available to the firm under this pricing method:

- Premium Pricing
- Discount Pricing
- Parity Pricing / Going Rate Pricing

Premium pricing means pricing above the level adopted by competitors; discount pricing means pricing below such level; and parity pricing means matching competitors pricing. Where supply is more than adequate to meet demand and the market remains competitive in a stable manner and where the channel and consumers are well aware of their choices, parity pricing may be the answer. Similarly, when a market leader has established a market price with the intention of stabilizing the price, the smaller firms in the industry may have to go in for parity pricing.

3.11 REACTING TO COMPETITORS PRICE CHANGE

Whether the price is raised or lowered, the action will affect buyers, competitors, distributors, and suppliers and may interest government as well. Customers do not always interpret prices in a straightforward way. They may view a price cut in several ways. For example, what would you think if Joy perfume, "the costliest frangrance in the world," were to cut its price in half? Or what if IBM were suddenly to cut its personal computer prices drastically? You might think that the computers are about to be replaced by newer models or that they have some fault and are not selling well. You might think that IBM is abandoning the computer business and may not stay in this business long enough to supply future parts. You might believe that quality has been reduced. Or you might think that the price will come down even further and that it will pay to wait and see.

Similarly, a price increase, which would normally lower sales, may have some positive meaning for buyers. What would you think if IBM raised the price of its latest personal computer model? On the one hand, you might think that the item is very "hot" and may be unobtainable unless you buy it soon. Or you might think that the computer is an unusually good value. On the other hand, you might think that IBM is greedy and charging what the traffic will bear.

A firm considering a price change has to worry about the reactions of its competitors as well as those of its customers. Competitors are most likely to react when the number of firms involved is small, when the product is uniform, and when the buyers are well informed. How can the firm anticipate the likely reactions of its competitors? If the firm faces one large competitor, and if the competitor tends to react in a set way to price changes, that reaction can easily be anticipated. But if the competitor treats each price change as a fresh challenge and reacts according to its self-interest, the company will have to figure out just what makes up the competitor's self-interest at the time.

The problem is complex because, like the customer, the competitor can interpret a company price cut in many ways. It might think the company is trying to grab a larger market share, that the company is doing poorly and trying to boost its sales, or that the company wants the whole industry to cut prices to increase total demand.

When there are several competitors, the company must guess each competitor's likely reaction. If all competitors behave alike, this amounts to analyzing only a typical

competitor. In contrast, if the competitors do not behave alike—perhaps because of differences in size, market shares, or policies—then separate analyses are necessary. However, if some competitors will match the price change, there is good reason to expect that the rest will also match it.

Responding to Price Change

Before responding to competitors price change the firm needs to consider several issues:

- Why did the competitor change the price?
- Was it to take more market share, to use excess capacity, to meet changing cost conditions, or to lead an industry wide price change?
- Is the price change temporary or permanent?
- What will happen to the company's market share and profits if it does not respond?
- Are other companies going to respond?
- What are the competitor's and other firms' responses to each possible reaction likely to be?

Besides these issues, the company must make a broader analysis. It has to consider its own product's stage in the life cycle, the product's importance in the company's product mix, the intentions and resources of the competitor, and the possible consumer reactions to price changes. The company cannot always make an extended analysis of its alternatives at the time of a price change, however. The competitor may have spent much time preparing this decision, but the company may have to react within hours or days. About the only way to cut down reaction time is to plan ahead for both possible competitor's price changes and possible responses.

Figure 3.7 shows the ways a company might assess and respond to a competitor's price cut. Once the company has determined that the competitor has cut its price and that this price reduction is likely to harm company sales and profits, it might simply decide to hold its current price and profit margin. The company might believe that it will not lose too much market share, or that it would lose too much profit if it reduced its own price. It might decide that it should wait and respond when it has more information on the effects of the competitor's price change. For now, it might be willing to hold on to good customers, while giving up the poorer ones to the competitor. The argument against this holding strategy, however, is that the competitor may get stronger and more confident as its sales increase and that the company might wait too long to act.

If the company decides that effective action can and should be taken, it might make any of four responses. First, it could *reduce its price* to match the competitor's price. It may decide that the market is price-sensitive and that it would lose too much market share to the lower-priced competitor. Or it might worry that recapturing lost market share later would be too hard. Cutting the price will reduce the company's profits in the short run. Some companies might also reduce their product quality, services, and

marketing communications to retain profit margins, but this will ultimately hurt long-run market share. The company should try to maintain its quality as it cuts prices.

Alternatively, the company might maintain its price but raise the perceived quality of its offer. It could improve its communications, stressing the relative quality of its product over that of the lower-price competitor. The firm may find it cheaper to maintain price and spend money to improve its perceived value than to cut price and operate at a lower margin.

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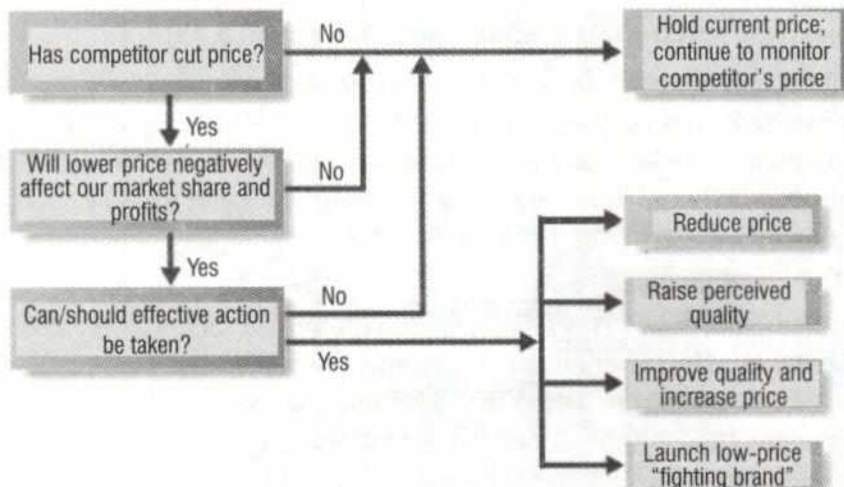


Fig. 3.7: Assessing and Responding to Competitor's Price Change

Or, the company might improve quality and increase price, moving its brand into a higher-price position. The higher quality justifies the higher price, which in turn preserves the company's higher margins. Or the company can hold price on the current product and introduce a new brand at a higher-price position.

Finally, the company might launch a low-price "fighting brand"—adding a lower-price item to the line or creating a separate lower-price brand. This is necessary if the particular market segment being lost is price-sensitive and will not respond to arguments of higher quality. Thus, when challenged on price by store brands and other low-price entrants, Procter & Gamble turned a number of its brands into fighting brands, including Luvs disposable diapers, Joy dishwashing detergent, and Camay beauty soap. In turn, P&G competitor Kimberly-Clark offers its value-priced Scott Towels brand as "the Bounty killer." It scores well on customer satisfaction measures but sells for a lower price than P&G's Bounty brand.

Case Study: Walmart's Competitive Advantage

Walmart's competitive strategy is to dominate every sector where it does business. It measures success in terms of sales and dominance over competitors. Its strategy is to sell goods at low process, outsell competitors, and to expand. Generally, Walmart does everything it can to win over competitors.

A typical Walmart model is to build more stores, make existing stores bigger, and to expand into other sectors of retail. Every step of the way, it strives to make

Check Your Progress

Fill in the Blanks

4. .... represents business units having a large market share in a mature, slow growing industry.
5. In .... the firm bases its price largely on competitors prices with less attention paid to its own cost or demand.
6. .... refers to the practice of offering a commission or discount to intermediates such as advertising agencies, stock brokers, property dealers for rendering a service.
7. .... aims at high price and high profits in the early stage of marketing the product.

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money and dominate its competitors, to the point of putting some of them out of business.



The corporate mission of Walmart can be stated as follows:

As Walmart continues to grow into new areas and new mediums, our success will always be attributed to our culture. Whether you walk into a Wal-Mart store in your hometown or one across the country while you're on vacation, you can always be assured you're getting low prices and that genuine customer service you've come to expect from us. You'll feel at home in any department of any store…that's our culture.

The company has three "Basic Beliefs" or core philosophies Sam Walton built the company on. Those beliefs are: (1) Respect for the Individual, (2) Service to Our Customers, and (3) to Strive for Excellence. Respecting the individual is a call for treating their employees well and pushing them to excel in what they do. The commitment to their customers is a goal whereby the stores respect a pricing philosophy to always sell items as low as they can while providing excellent customer service. The third belief is to strive for excellence, that is, to expand the store, innovate or reach further in to new markets and to grow.

Other beliefs include, exceeding customer expectations with "aggressive hospitality" such as using door greeters. The store also features patriotic display and themes in its US stores. Another goal for the company is to support efforts in the local community via charitable contributions. Walmart identifies several affiliations with charities such as the United Way and the Children's Miracle Network.

During the 1970s, the retail industry became highly competitive, but, at the same time the economy became weak due to inflation. Sears was the leading retailer in the nation, during the 1970s, however, the recession of 1974–1975 and inflation affected Sears adversely. Sears targeted middle class families and expanded its overhead. Walmart's strategy was to compete with its rivals and lower overhead expenses. Compared with Sears, which consisted of more than 6,000 distribution centers, Walmart had only 2,500 comparable units.

Walmart centered on small-towns first then tried to move to large cities. This happened while other retailers centered on larger urban centres. However, as the economy faced a downturn, people wanted low price stores. Furthermore, as people became mobile, they moved to small towns and suburbs and were willing to travel further to buy low price products.

During the 1980s, local chambers of commerce supported Walmart because they believed that the company helps a local economy by providing good

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quality products at low prices. Unfortunately, critics contend that the success of Walmart hurts the existing local independent merchants. Despite the criticism that Walmart destroys small-town competitors, the local chambers of commerce endorsed Walmart. In addition, the chambers of commerce account that the arrival of Walmart provided jobs for people and a more diverse opportunity for local merchants by adapting to the new business environment.

When Walmart first arrived on the scene with their low prices, Kmart stores was unable to discount brand-name products. Customers wanted to buy good quality brand-name products. Kmart provides non-name brand goods cheaply; however, it could not maintain constant low prices with its name-brand products. Kmart and Sears could not beat Walmart due to several reasons: First, Sears' prices are higher than Walmart's because the Sears infrastructure gives it higher overhead costs. Kmart declined in customer appeal because it neglected its store environment and could not provide satisfactory levels of service for its customers. Widespread complaints of poor customer service at Kmart began to surface while Walmart placed emphasis on customer satisfaction and neat store environments.

Walmart is also on top of their game because of the management strategies they employ. The management strategies of Walmart emphasize its workforce and its corporate culture; that being a morally conservative, religious, and family-oriented business. Walmart emphasizes how it listens to the needs of its workforce so that each employee is able to suggest improvements to company policy and practice. At Walmart, store employees are called "associates".

The company offers generous financial rewards for employees by means of profit-sharing plans such as stock-purchase options. Furthermore, the company provides comprehensive training programs for all employees.

Walmart's Control System

Each store constituted an investment centre and was evaluated on its profits relative to its inventory investments. Data from over 5,300 stores on it such as sales, expenses, and profit and loss were collected, analyzed, and transmitted electronically on a real-time basis, rapidly revealing how a particular region, district, store, department within a store, or item within a department is performing. Information enables the company to reduce the likelihood of stock-outs and the need for markdowns on slow moving stock, and to maximize inventory turnover.

To reduce the costs of shoplifting and pilferage, WalMart addressed this issue by instituting a policy that shared 50% of the savings from decreases in a store pilferage in a particular store, as compared to the industry standard, among that store's employees through incentive plans.

The "Sundown Rule" is a corporate directive whereby all Wal-Mart employees, be they store "associates," management, or corporate staff, must reasonably answer a customer's or supplier's request or question within 24 hours.

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The "Ten Foot Rule" states that store employees must greet, smile, and attend to a customer in a store when within 10 feet of them. It's a type of aggressive hospitality policy. Wal-Mart also compels its staff to engage in morning "cheers" where they recite company sayings.

A final, yet important rule, which is a strong part of the corporate culture is Sam Walton's "Pricing Philosophy" which underlines the company strategy of selling items for less than their competitors, "always."

WalMart pushed the retail industry to establish the universal barcode, which forced manufacturers to adopt common labeling. The bar allowed retailers to generate all kinds of information—creating a subtle shift of power from manufacturers to retailers. Walmart became especially good at exploiting the information behind the bar code and is considered a pioneer in developing sophisticated technology to track its inventory and cut the fat out of its supply chain.

Walmart became the first major retailer to demand manufacturers use Radio Frequency Identification Technology (RFID). The technology uses radio frequencies to transmit data stored on small tags attached to pallets or individual products. RFID tags hold significantly more data than bar codes. During the first eight months of 2005, Wal-Mart experienced a 16 percent drop in out-of-stock merchandise at its RFID-equipped stores.

Though Walmart may have been the top customer for consumer product manufacturer, it deliberately ensured it did not become too dependent on any one supplier; no single vendor constituted more than 4% of its overall purchase volume. In order to drive up supply chain efficiencies, Walmart had also persuaded its suppliers to have electronic 'hook-ups' with its stores and adapt to its latest supply chain technologies like RFID which could increase monitoring and management of the inventory.

Walmart used a "saturation" strategy for store expansion. The standard was to be able to drive from a distribution centre to a store within a day. A distribution centre was strategically placed so that it could eventually serve 150-200 Wal-Mart stores within a day. Stores were built as far away as possible but still within a day's drive of the distribution centre; the area then was filled back (or saturated back) to the distribution center. Each distribution center operated 24 hours a day using laser-guided conveyer belts and cross-docking techniques that received goods on one side while simultaneously filling orders on the other.

The company owned a fleet of more than 3,000 trucks and 12,000 trailers. (Most competitors outsourced trucking.) Walmart had implemented a satellite network system that allowed information to be shared between the company's wide network of stores, distribution centres, and suppliers. The system consolidated orders for goods, enabling the company to buy full truckload quantities without incurring the inventory costs.

Source: *http://www.mbaknol.com/management-case-studies/case-study-wal-mart%E2%80%99s-competitive-advantage/*

3.12 SUMMARY

- Product, in the marketing context is anything which is offered to the market for exchange or consumption. In goods marketing, we always say that there is a tangible component to which some intangibles like style, after-sales service, credit, etc., are integrated.
- Innovation is a state of mind that can benefit your business processes and models as well as create new products and services. New product development tends to happen in stages.
- Boston Consulting Group (BCG) Matrix is a four celled matrix (a 2×2 matrix) developed by BCG, USA. It is the most renowned corporate portfolio analysis tool. It provides a graphic representation for an organization to examine different businesses in its portfolio on the basis of their related market share and industry growth rates.
- Price is one of the important variables in the marketing mix. Its importance has increased substantially over the years because of the environmental factors like recession, intensity in inter-firm rivalry and the customer becoming more aware of alternatives.
- Price is the only element in the marketing mix that produces revenue. Price is also one of the most flexible elements of the marketing mix. At the same time, pricing and price competition are the number-one problems faced by many marketing executives.
- In the entire marketing mix, price is the one element that produces revenue; the others produce costs. Price is also one of the most flexible elements: It can be changed quickly, unlike product features and channel commitments.
- The competitor may have spent much time preparing this decision, but the company may have to react within hours or days. About the only way to cut down reaction time is to plan ahead for both possible competitor's price changes and possible responses.

3.13 KEY TERMS

- **Product:** Product, in the marketing context is anything which is offered to the market for exchange or consumption.
- **Product range:** Range of the product mix refers to the number of product lines that a company offers or the variety a company offers.
- **Product line:** A firm's product line or lines refer to the assortment of similar things that the firm holds. Brother, for example, has both a line of laser printers and one of typewriters. In contrast, the firm's product mix describes the combination of different product lines that the firm holds.

- **Benchmarking:** Benchmarking is defined as measuring the performance of a business against that of the strongest competition in order to establish "best practice".

3.14 ANSWERS TO 'CHECK YOUR PROGRESS'

1. Product, in the marketing context is anything which is offered to the market for exchange or consumption. In goods marketing, we always say that there is a tangible component to which some intangibles like style, after-sales service, credit, etc., are integrated.
2. Range of the product mix refers to the number of product lines that a company offers or the variety a company offers. Offering a wider array of product lines is common for discount and department that sell products in a number of different product categories.
3. Benchmarking is defined as measuring the performance of a business against that of the strongest competition in order to establish "best practice".
4. Cash Cows
5. Going-rate pricing
6. Discount Pricing
7. Skimming Pricing

3.15 QUESTIONS AND EXERCISES

Short Answer Questions

1. Explain the meaning of product in marketing.
2. What is a product line?
3. What are the key stages of service life cycle?
4. What are the cash cows of BCG matrix?
5. What are the key objectives of product pricing?
6. What is discount pricing?
7. What do you mean by premium pricing?
8. Explain the meaning of skimming pricing.

Long Answer Questions

1. Discuss the line, range and consistency of product/service mix offerings.
2. What is an innovative product offering? Discuss.

3. What are the key strategic decision and design elements that must be considered in the service process planning?
4. Discuss the BCG product portfolio concept and use.
5. What are the key objectives and methods of pricing?
6. Write a detailed note on different types of pricing policies and their effectiveness?
7. Discuss the new product pricing strategy.
8. Discuss the impact of price change on competitors' pricing strategy.

UNIT 4 PROMOTION AND DISTRIBUTION MIX DECISION

Structure

4.0 INTRODUCTION

Promotion and distribution are other important elements of marketing mix. Sales promotion is an activity used by the industrial marketer to boost the immediate sales of a product or service. It is used to increase the sales by impressing the customers, rewarding them and also motivating the sales force to get more business. There are different techniques used in a industrial sales promotion activity like a free-sample campaign, offering free gifts, arranging demonstrations or exhibitions, organizing competitions with attractive prizes, temporary price reductions, door-to-door calling, telemarketing, using personal letters, etc.

When a company or a manufacturer produces goods or services, it has the immediate responsibility to distribute and sell them to the industrial and institutional customers. The industrial customers generally constitute of wholesalers, retailers, manufacturers, educational institutions, governments, hospitals, public utilities, and other formal organizations. There are various intermediaries who are involved in a distribution and selling process helping the manufacturers to make their goods reach the end users. Thus, a network or channel that helps to flow the goods from the producer

to the consumer through a set of interdependent organizations (intermediaries) is called distribution channel or trade channel or marketing channel. Channels are the tools used by management to move the goods from the place of production to the place of consumption. In the progression, the title of goods gets transferred from sellers to buyers.

4.1 UNIT OBJECTIVES

After going through this unit, you will be able to:

- Describe the key promotools
- Explain the concept of sales promotion, publicity and salesmanship
- Know the meaning of budgeting for promotional expenses
- Take distribution mix decisions.

4.2 PROMOTOOLS

The 4Ps of marketing are product, price, place and promotion. All four of these elements combine to make a successful marketing strategy. Promotion looks to communicate the company's message across to the consumer. The four main tools of promotion are advertising, sales promotion, public relation and direct marketing.

Advertising

Advertising is defined as any form of paid communication or promotion for product, service and idea. Advertisement is not only used by companies but in many cases by museum, government and charitable organizations. However, the treatment meted out to advertisement defers from an organization to an other organization.

Advertising development involves a decision across five Ms—Mission, Money, Message, Media and Measurement.

Mission looks at setting objectives for advertising. The objectives could be to inform, persuade, remind or reinforce. Objective has to follow the marketing strategy set by the company.

Money or budget decision for advertising should look at the stage of product life cycle, market share and consumer base, competition, advertising frequency and product substitutability.

Message's development further is divided into four steps, message generation, message evaluation and selection, message execution, and social responsibility review.

Once the message is decided the next step is finalizing the media for delivering the message. The choice depends on reach of media, frequency of transmission and

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potential impact on customer. Based on this choice of media types are made from newspaper, television, direct mail, radio, magazine and the internet. After which timing of broadcast of the message is essential as to grab attention of the target audience.

Checking on the effectiveness of communication is essential to a company's strategy. There are two types of research communication—effect research and sales effect research.

Sales Promotion

Promotion is an incentive tool used to drive up short-term sales. Promotion can be launched directed at consumer or trade. The focus of advertising is to create reason for purchase. The focus of promotion is to create an incentive to buy. Consumer incentives could be samples, coupons, free trial and demonstration. Trade incentive could be price off, free goods and allowances. Sales force incentive could be convention, trade shows, competition among sales people.

Sales promotion activity can have many objectives, for example, to grab attention of new customer, reward the existing customer, and increase consumption of occasional users. Sales promotion is usually targeted at the fence sitters and brand switchers.

Sales promotional activity for the product is selected looking at the overall marketing objective of the company. The final selection of the consumer promotional tools needs to consider target audience, budget, competitive response and each tool's purpose.

Sales promotion activity should under-go pretest before implementation. Once the activity is launched it should be controlled as to remain within the budget. Evaluation program is a must after implementation of the promotional scheme.

Public Relations

Companies cannot survive in isolation. They need to have a constant interaction with customers, employees and different stakeholders. This servicing of relation is done by the public relation office. The major function of the public relation office is to handle press releases, support product publicity, create and maintain the corporate image, handle matters with lawmakers, guide management with respect to public issues.

Companies are looking at ways to converge with functions of marketing and public relation in marketing public relation. The direct responsibility of marketing public relation (MPR) is to support corporate and product branding activities.

MPR is an efficient tool in building awareness by generating stories in media. Once the story is in circulation MPR can establish credibility and create a sense of enigma among sales people as well as dealers to boost enthusiasm. MPR is a much more cost-effective tool than other promotional activities.

Direct Marketing

The communication established through a direct channel without using any intermediaries is referred to as direct marketing. Direct marketing can be used to deliver message or service. Direct marketing has shown tremendous growth in recent years. The internet has played a major part in this growth story. Direct marketing saves time, and makes an experience personal and pleasant. Direct marketing reduces cost for companies. Face-to-face selling, direct mail, catalog marketing, telemarketing, TV and kiosks are media for direct marketing.

Advertisement, promotional activity, public relation and direct marketing play an essential role in helping companies reach their marketing goals.

4.3 ADVERTISEMENT: TYPES AND IMPORTANCE

The word advertising originates from a Latin word advertise, which means to turn to. The dictionary meaning of the term is "to give public notice or to announce publicly". Advertising may be defined as the process of buying sponsor-identified media space or time in order to promote a product or an idea.

The American Marketing Association has defined advertising as "any form of non-personal presentation or promotion of ideas, goods or services, by an identified sponsor."

Advertising Management is a complex process of employing various media to sell a product or service. This process begins quite early from the marketing research and encompasses the media campaigns that help sell the product. Without an effective advertising management process in place, the media campaigns are not that fruitful and the whole marketing process goes for a toss. Hence, companies that believe in an effective advertising management process are always a step ahead in terms of selling their goods and services.

As mentioned above, advertising management begins from the market research phase. At this point, the data produced by marketing research is used to identify what types of advertising would be adequate for the specific product. Gone are the days when only print and television advertising was available to the manufacturers. These days apart from print and television, radio, mobile, and Internet are also available as advertising media. Advertising management process in fact helps in defining the outline of the media campaign and in deciding which type of advertising would be used before the launch of the product.

If you wish to make the advertising effective, always remember to include it from the market research time. Market research will help to identify the niche segment of the population to which the product or service has to be targeted from a large population. It will also identify why the niche segment would opt for the product or service. This information will serve as a guideline for the preparation of advertising campaigns.

Once the niche segments are identified and the determination of what types of advertising will be used is done, then the advertising management focuses on creating the specifics for the overall advertising campaign. If it is a radio campaign, which type of ads would be used, if it is a print campaign, what write ups and ads will be used, and if it is a television campaign, what type of commercials will be used. There might also be a mix and match advertising in which radio might supplement television advertising and so on. It is important that through advertising management the image is conveyed that all the strategies complement each other. It should not look to public that the radio advertising is focusing on something else while television on something else. The whole process in the end should benefit the product or service.

The role of people designing the advertising campaign is crucial to its success. They have been trained by seasoned professionals who provide the training in the specific field. Designing an advertising campaign is no small a task and to understand the consumer behavior from the data collected from market research is a very important aspect of the campaign. A whole lot of creativity and inspiration is required to launch an adequate advertising campaign. In addition, the management skills come into play when the work has to be done keeping the big picture in mind. It would be fruitful for the company if the advertising campaign lasts well over the lifetime of a product or service, reach the right customers, and generate the desired revenue.

4.3.1 Types of Advertising

There are several branches or types of advertising which can be used by the companies. Let us discuss them in detail.

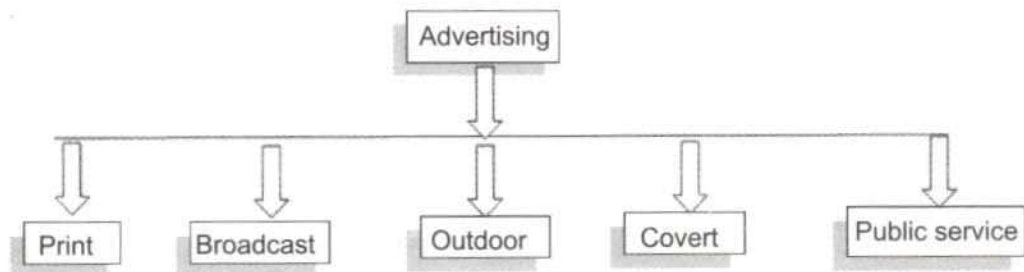


Fig. 4.1: Classification of Advertising

Print Advertising

The print media has been used for advertising since long. The newspapers and magazines are quite popular modes of advertising for different companies all over the world. Using the print media, the companies can also promote their products through brochures and fliers. The newspaper and magazines sell the advertising space and the cost depends on several factors. The quantity of space, the page of the publication, and the type of paper decide the cost of the advertisement. So an ad on the front page would be costlier than on inside pages. Similarly an ad in the glossy supplement of the paper would be more expensive than in a mediocre quality paper.

The newspaper or magazine ad should be such that it should compel people to spend money on the products. This is just what the advertising team does. To create such an ad, the team members work on a concept and develop the wordings and images of the ad. These wordings and images are then brought together to form the final ad. Then there are people who deal with the placement of the ad. They have to make sure that if the client has paid for premium place, they get the desired exposure. For example, an ad on the first page will get instant attention of the reader than the ad on the subsequent pages. Likewise, an ad which occupies greater space is likely to get more attention. All these factors have to be looked into while designing the ad.

The sales team of the publication makes sure that it gets ads regularly. In fact, these ads are a major source of income for the publication and hence it is expected that there should be a constant flow of the ads. The sales team does just that.

Mailers are another type of print ads. These can range from well-designed postcards to simple paper leaflets. These are usually delivered by the postal workers in people's mailboxes. The problem with these mailers is that they get least attention and are usually considered as junk and thrown away even without reading. To reduce this occurrence, companies sometimes make use of fliers. These are paper ads which are handed over to individuals in person. The logic is that if the ad is given to people personally, they will pay more attention to it, which is actually true to some extent.

Though print advertising is still very popular, it does take a hit from time to time. For example, during the recession phase, when people's budgets were tight, they did not resort to print ads. In addition, with the advent of Internet, the print ads in the publications have gone down because Internet has a wider reach online. To overcome this scenario, new strategies have to be developed by advertisers and the print media. Globally, advertisers keep on developing strategies which benefit the business of print publications. Therefore, it can be said that print advertising is here to stay.

Broadcast Advertising

This type of advertising is very popular all around the world. It consists of television, radio, or Internet advertising. The ads on the television have a large audience and are very popular. The cost of the advertisement depends on the length of the ad and the time at which the ad would be appearing. For example, the prime time ads would be more costly than the regular ones. Radio advertising is not what it used to be after the advent of television and Internet, but still there is specific audience for the radio ads too. The radio jingles are quite popular in sections of society and help to sell the products.

The role of broadcast advertising is to persuade consumers about the benefits of the product. It is considered as a very effective medium of advertising. The cost of advertising on this channel depends on the time of the commercial and the specific time at which it is aired. For example, the cost of an ad in the premium slot will be greater than in any other slot.

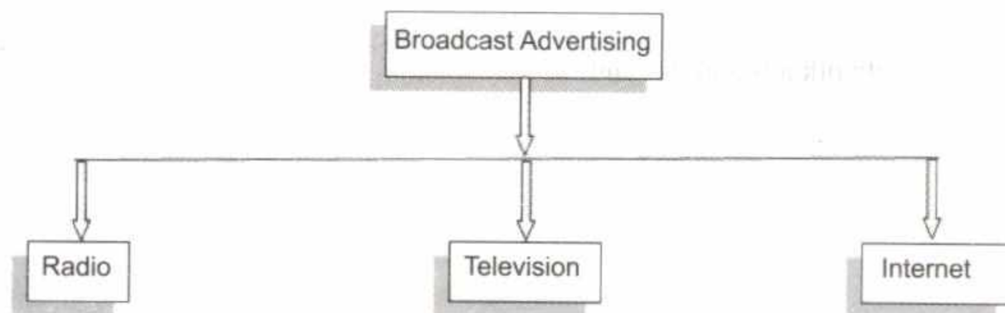


Fig. 4.2: Types of Broadcast Advertising

A radio ad must be aired several times before it actually sinks in the minds of the consumers. Thus the frequency of the ad is important. The type of your target audience is also important. Therefore, one must do a research on which type of audience listens to which channels if they want the ads to be successful. The voice talent in the commercial should be taken keeping in mind the type of audience and the type of commercial.

The television advertising is usually considered the advertising for the corporate giant, though even the small businesses can benefit from it. A strong audio and video combination is a must for the success of the commercial. But it is also important that the audio and video should function well without each other. For example, if a person is not viewing the TV but just listening to it, s/he should get the idea and vice versa.

It is extremely important that whatever has been advertised in the commercial is true. For this reason, organizations such as Federal Trade Commission (FTC) are there to monitor the commercials on television and radio. This ensures that the advertisers are not making any false claims to lure consumers to buy their products.

Most of the radio and television advertisements are paid though there are some public service ads which can be aired for free. The advertisers usually have to pay for the spot which lasts for 30 seconds. In rare cases, this spot can increase to 60 seconds too.

These days radio and television ads are prepared by advertising agencies for their clients. They understand the need of the client and make the commercial keeping in mind the current state of affairs. Broadcast advertising has become a very essential part of marketing in recent times. Companies allocate specific budget for radio and television ads and make an estimate of how much revenue they can earn through broadcast advertising. For example, marketing consultants are hired to determine the return on investment (ROI) for spending on radio and television ads. Sometimes the marketing consultants of these businesses run sample ads to judge its popularity among the viewers.

Internet or online advertising uses the Internet or the World Wide Web for the purpose of attracting consumers to buy their product and services. Examples of

such advertising include ads on search engine result pages, rich media ads, banner ads, social network advertising, and email marketing and so on. Online advertising has its benefits, one of them being immediate publishing of the commercial and the availability of the commercial to a global audience. But along with the benefits come the disadvantages too. These days, advertisers put distracting flashing banners or send across email spam messages to the people on a mass scale. This can annoy the consumers and even the real ads might get ignored in the process. Therefore, ethics in advertising is very important for it to be successful.

Outdoor Advertising

Outdoor advertising makes use of different tools to gain customer's attention. The billboards, kiosks, and events and tradeshows are an effective way to convey the message of the company. The billboards are present all around the city but the content should be such that it attracts the attention of the customer. The kiosks are an easy outlet of the products and serve as information outlets for the people too. Organizing events such as trade fairs and exhibitions for promotion of the product or service also in a way advertises the product. Therefore, outdoor advertising is an effective advertising tool.

The print and newspaper advertising takes up a huge part of advertising but outdoor advertising is unique in its own way. It is an extremely cost-effective method of advertising. All you need to do is to design a billboard and get it printed as compared to the television advertising where an entire 30 second commercial has to be designed. If the outdoor ads are strategically placed, it can guarantee substantial exposure for very little cost. That is why outdoor advertising is very cost-effective.

Different industries make use of outdoor advertising in their own different way. For example, eating joints and eateries on the highway make use of highway billboards to draw the customer to have a bite and rest a little at their joint. McDonalds and Subway are excellent examples. The automobile and tourism industries make use of the billboards to advertise their products and tourism plans. These are way too successful because of the fact that people on the highway are on the lookout for such information.

Apart from the billboards, there are several other forms in which outdoor advertising can take place. For example, beverage companies make use of sporting events and arenas to showcase their products. For example, Coca Cola was one of the FIFA World Cup sponsors. Other places where you can see outdoor advertising are:

- taxicabs
- buses
- railways
- subways and walls on which murals are painted

All these forms of outdoor advertising are very popular and extremely cost-effective.

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Covert Advertising

As evident from the word "covert", this type of advertising aims to integrate the advertising with the non-promotional mediums. This practice is most commonly found in films. For example, billboards of the products may be shown in the film for a prolonged period of time. Or a character in the film may mention the name of the brand again and again. At other times the director may present the product as an integral part of the film. For example, the cars featured in several action flicks. Remember the Cadillac in Matrix Reloaded and BMWs in James Bond movies.

It is a fact that these tactics seem to be high profile and also seem to require a lot of bucks. Only established brand names have used such form of advertising. Not everyone has the financial prowess to use this form of advertising. However, there are ways through which you can also promote your product or service. Maybe contributing an article in a local daily will work well for you. You can mention your brand quite subtly there. On the Internet too, covert advertising is a hot trend. You can blog about the product or ask a well-known blogger to write about your product or service. However, this should be done inconspicuously.

As opposed to covert advertising, public service advertising aims at spreading awareness about issues that are relevant to public interest. Such ads may quote a political viewpoint, a philosophy, or a religious concept. Such humanitarian ads are usually broadcasted on the radio or television, though they can also appear in newspapers and magazines. A PSA or Public Service Announcement is aimed to alter public attitudes on issues ranging from health, safety, and conservation.

Most of the PSA ads use celebrities in order to gain attention. Others focus their ads on the risks that can come to men, women, and children. In recent years, it has become quite common in US to broadcast the public service ads just after or in between the programs that relate to public service in any way. They provide information such as the toll free help lines, websites and addresses. In general, the public service ads are about rape, HIV, cancer, child abuse, domestic violence, and civil rights.

While public service advertising is not as popular as paid advertising, it should be given due importance. All across the world, such type of advertising is now widely used. In fact, in US, public service advertising was once a requirement if the radio and television stations were to get their licenses from Federal Communications Commission (FCC).

Public Service Advertising should carry a short and to the point message. The advertisement should be made keeping the target audience in mind. As it is not about buying a product but a change in the attitude altogether, the advertisements have to be amply clear and the message should prompt the people to take a step forward. If the shift in the mindsets of people does not happen, then the ad is not conveying the message properly. For this reason, the PSAs are often dramatic and expressive.

Public Service Advertising

As evident from the title itself, such advertising is for the public causes. There are a host of important matters such as AIDS, political integrity, energy conservation, illiteracy, poverty and so on all of which need more awareness as far as general public is concerned. This type of advertising has gained much importance in recent times and is an effective tool to convey the message.

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4.3.2 Importance and Objectives of Advertising

Generally, advertising is a relatively low-cost method of conveying selling messages to numerous prospective customers. It can secure leads for salesmen and middlemen by convincing readers to request more information and by identifying outlets handling the product. It can force middlemen to stock the product by building consumer interest. It can help train dealers salesmen in product uses and applications. It can build dealer and consumer confidence in the company and its products by building familiarity. Advertising is to stimulate market demand.

While sometimes advertising alone may succeed in achieving buyer acceptance, preference, or even demand for the product, it is seldom solely relied upon.

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Advertising is efficiently used with at least one other sales method, such as personal selling or point-of-purchase display, to directly move customers to buying action.

Advertising has become increasingly important to business enterprises—both large and small. Outlay on advertising certainly is the voucher. Non-business enterprises have also recognized the importance of advertising. The attempt by army recruitment is based on a substantial advertising campaign, stressing the advantages of a military career. The health department popularizes family planning through advertising. Labour organizations have also used advertising to make their viewpoints known to the public at large. Advertising assumes real economic importance too.

Advertising strategies that increase the number of units sold stimulate economies in the production process. The production cost per unit of output is lowered. It in turn leads to lower prices. Lower consumer prices then allow these products to become available to more people. Similarly, the price of newspapers, professional sports, radio and TV programmes, and the like might be prohibitive without advertising. In short, advertising pays for many of the enjoyable entertainment and educational aspects of contemporary life.

Advertising has become an important factor in the campaigns to achieve such societal-oriented objectives such as the discontinuance of smoking, family planning, physical fitness, and the elimination of drug abuse.

Advertising helps to increase mass marketing while helping the consumer to choose from amongst the variety of products offered for his selection.

Objectives

Each advertisement is a specific communication that must be effective, not just for one customer, but for many target buyers. This means that specific objectives should be set for each particular advertisement campaign. Advertising is a form of promotion and like a promotion; the objectives of advertising should be specific. This requires that the target consumers should be specifically identified and that the effect which advertising is intended to have upon the consumer should be clearly indicated. The objectives of advertising were traditionally stated in terms of direct sales. Now, it is to view advertising as having communication objectives that seek to inform, persuade and remind potential customers of the worth of the product. Advertising seeks to condition the consumer so that he/she may have a favourable reaction to the promotional message. Advertising objectives serve as guidelines for the planning and implementation of the entire advertising program.

The basic objectives of an advertising program may be listed as below:

- To stimulate sales amongst present, former and future consumers. It involves a decision regarding the media, e.g., TV rather than print ;
- To communicate with consumers. This involves decision regarding copy ;
- To retain the loyalty of present and former consumers. Advertising may be used to reassure buyers that they have made the best purchase, thus building loyalty to the brand name or the firm.

- To increase support. Advertising impliedly bolsters the morale of the sales force and of distributors, wholesalers, and retailers; it thus contributes to enthusiasts and confidence attitude in the organization.
- To project an image. Advertising is used to promote an overall image of respect and trust for an organization. This message is aimed not only at consumers, but also at the government, shareholders, and the general public.

4.4 SALES PROMOTION: TYPES AND RELEVANCE

Sales promotion consists of diverse collection of incentive tools, mostly short-term designed to stimulate quicker and / or greater purchase of a particular product by consumers or the trade. Whereas advertising offers a reason to buy, sales promotion offers an incentive to buy. Sales promotion includes tools for consumer promotion (for example samples, coupons, prizes, cash refund, warranties, demonstrations, contest); trade promotion (for example buying allowances, free goods, merchandise allowances, co-operative advertising, advertising and display allowances, dealer sales contests); and sales-force promotion (for example bonuses, contests, sales rallies).

Sales promotion efforts are directed at final consumers and designed to motivate, persuade and remind them of the goods that are offered. Sales persons adopt several techniques for sales promotion. Creative sales promotion can be very effective. It is the marketing manager's responsibility to specify promotion objectives and policies.

Definitions of Sales Promotion

- According to American Marketing Association "Those marketing activities other than personal selling, advertising and publicity that stimulate consumer purchasing and dealer effectiveness such as display shows and exhibitions, demonstrations and various non-recurrent selling efforts not in the ordinary routine."
- W.J. Stanton defines sales promotion as all those activities other than advertising, personal selling, public relations and publicity that are intended to stimulate customer demand and improve the marketing performance of sellers.

Objectives of Sales Promotion

The basic objectives of sales promotion are:

- **To introduce new products:** To induce buyers to purchase a new product, free samples may be distributed or money and merchandise allowance may be offered to business to stock and sell the product.
- **To attract new customers:** New customers may be attracted through issue of free samples, premiums, contests and similar devices.

- **To induce present customers to buy more:** Present customers may be induced to buy more by knowing more about a product, its ingredients and uses.
- **To help firm remain competitive:** Sales promotions may be undertaken to meet competition from a firm.
- **To increase sales in off season:** Buyers may be encouraged to use the product in off seasons by showing them the variety of uses of the product.
- **To increase the inventories of business buyers:** Retailers may be induced to keep in stock more units of a product so that more sales can be affected.

Rationale of sales promotion

Rationale of sales promotion may be analyzed under the following points.

- **Short-term results:** Sales promotion such as coupons and trade allowances produce quicker, more measurable sales results. However critics of this strategy argue that these immediate benefits come at the expense of building brand equity. They believe that an over emphasize on sales promotion may undermine a brand's future.
- **Competitive pressure:** If competitors offer buyers price reductions, contest or other incentives, a firm may feel forced to retaliate with its own sales promotions.
- **Buyers' expectations:** Once they are offered purchase incentives, consumers and channel members get used to them and soon begin expecting them.
- **Low quality of retail selling:** Many retailers use inadequately trained sales clerks or have switched to self service. For these outlets, sales promotion devices such as product displays and samples often are the only effective promotional tools available at the point of purchase.

4.4.1 Types of Sales Promotion

In using sales promotion, a company must fulfill the objectives of the organization. Sales promotion objectives are derived from broader promotion objectives, which are derived from more basic marketing objectives developed for the product. The specific objectives set for sales promotion will vary with the type of target market.

For consumers, objectives include encouraging purchase of larger-size units, building trial among non-users and attracting switches away from competitors brands. For retailers objectives include inducing retailers to carry new items and higher levels of inventory, encouraging off-season buying, encouraging, stocking of related items, offsetting competitive promotions, building brand loyalty of retailers and gaining entry into new retail outlets. For sales force, objectives include encouraging support of a new product or model, encouraging more prospecting and stimulating off-season sales.

Many sales promotion tools are available to accomplish these objectives at the consumer level, and at the middle men level. For the purpose of convenience, the types of sales promotion methods may be grouped under three categories:

1. Types of sales promotion directed at consumers.
2. Types of sales promotion directed at dealers and distributors.

Consumer Promotion

The main consumer promotion tools include samples, coupons, cash refund offers, price packs, premiums, prizes, patronage rewards, free trials, product warranties, tie-ins, and point of purchase displays and demonstrations.

- **Samples:** Samples are offers of a free amount or trial of a product to consumers. The sample might be delivered door-to-door sent in the mail, picked up in a store, found attached to another product or featured in an advertising offer. Sampling is the most effective and most expensive way to introduce a new product.
- **Coupons:** Coupons are certificates entitling the bearer to a stated saving on the purchase of a specific product. Coupons can be mailed, enclosed in or on other products or inserted in magazine and newspaper advertisements. Coupons can be effective in stimulating sales of a mature brand and inducing early trial of a new brand.
- **Cash Refund Offers or Rebates:** These are like coupons except that the price reduction occurs after the purchase rather than at the retail shop. The consumer sends a specified "proof of purchase" to the manufacturer, who in turn refunds part of the purchase price by mail. Cash refunds have been used for major products such as automobiles as well as for packaged goods.
- **Price Packs:** These are offers to consumers of savings off the regular price of a product, flagged on the label or package. They may take the form of a reduced-price pack which is single package sold at a reduced price (such as two for the price of one) or a banded pack, which is two related products banded together (such as a tooth brush and tooth paste). Price packs are very effective in stimulating short-term sales, even more than coupons.
- **Premiums or Gifts:** These are merchandise offered at a relatively low cost or free as an incentive to purchase a particular product. Sometimes the package itself, a reusable container, may serve as a premium. A self-liquidating premium is an item sold below its normal retail price to consumers who request it.
- **Prizes:** These are offers of the chance to win cash, trips or merchandise as a result of purchasing something. Pepsi-cola offered the chance to win cash by matching numbers under the bottle cap with numbers announced on television. Sometimes the prize is a person, offering the winner either cash or dinner with actor Shah Rukh Khan.

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- **Patronage Awards:** These are values in cash or in other forms that are proportional to one's patronage of a certain vendor or group of vendors. Most airlines offer "frequent flyer plans" providing points for miles traveled that can be turned in for free airline trips. Cooperatives pay their members dividends according to their annual patronage. Le Meridian adopted an "honoured guest" plan that awards points for users of their hotels.
- **Free Trials:** Free trials consist of inviting prospective purchasers to try the product without cost in the hope that they will buy the product. Thus, often we see, auto dealers encourage free test drives to stimulate purchase interest.
- **Product Warranties:** These are an important tool, especially as consumers become more quality sensitive. When My TVS offered a two-year car warranty, substantially longer than other competitors, customers took notice. They inferred that My TVS quality must be good or else the company would be in deep trouble. Companies must carefully estimate the sales-generating value against the potential costs of any proposed warranty programme.
- **Tie-in Promotions:** These are becoming increasingly popular. In a tie in promotion two or more brands or companies team up on coupons, refunds and contests to increase their pulling power. Companies pool funds with the hope of broader exposure, while several sales forces push these promotions to retailers, giving them a better shot at extra display and ad space.
- **Point-of-Purchase Displays:** These take place at the point-of-purchase or sale. Display of visible mark or product at the entrance of the store is an example. Unfortunately many retailers do not like to handle the hundreds of displays, signs and posters they receive from manufacturers. Hindustan Lever often use this tool to promote its products in the retail market.
- **Product Demonstrations:** Products are being shown in action. Consumers can visit the store and see the usage of product in live action so that doubts of the consumers can be clarified in the store itself. When a new product is introduced in the market, the sales promotional tool is often used. For example ultra modern grinder mixie being used by the company to demonstrate its speciality than the other product.

Trade Promotion

More sales promotion rupees are directed to the trade than to consumers. Manufacturers seek the following objectives in awarding money to the trade:

- Trade promotion can persuade the retailer or wholesaler to carry the brand.
- Trade promotion can persuade the retailer or wholesaler to carry more than it normally carries.
- Trade promotion can induce the retailers to promote the brand through featuring, display, and price reduction.

- Trade promotion can stimulate retailers and their sales clerks to push the product.

Manufacturers use several promotion tools. Some of which are mentioned below:

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- **Price-Off:** Manufacturers may offer a price-off, which is straight discount off the list price on each case purchased during a stated period of time. The offer encourages dealers to buy a quantity or carry a new item that they might not ordinarily buy. The dealers can use the buying allowance for immediate profit or price reductions.
- **Allowance:** Manufacturers may offer an allowance in return for the retailer's agreeing to feature the manufacturer's products in some way. An advertising allowance compensates retailers for advertising the manufacturer's product. A display allowance compensates them for carrying a special display of the product.
- **Free Goods:** Manufacturers may offer free goods, which are extra cases of merchandise to middlemen who buy a certain quantity of items.
- **Push Money:** Manufacturers may offer push money which is cash or gifts to dealers or their sales force to push the manufacturer's goods.
- **Speciality Advertising Items:** Manufacturers may offer free specialty advertising items to the retailers that carry the company's name such as pens, pencil, calendars, paper weights, and memo pads.

As the number of competitive sales promotions have increased, friction has been created between the company's sales force and its brand managers. The sales force says that the retailers will not keep products on the shelf unless they receive more trade promotion money, while the brand managers want to spend their funds on consumption.

4.4.2 Relevance of Sales Promotion

Sales promotion tools vary in their specific objectives. A free sample stimulates consumer trial, while a free management advisory service cements a long-term relationship with a retailer.

From the marketer's perspective, sales promotion serves three essential roles—it informs, persuades and reminds prospective and current customers and other selected audiences about a company and its products. The relative importance of those roles varies according to the circumstances faced by a firm.

The most useful product or brand will be a failure if no one knows it is available. Because distribution channels are often long, a product may pass through many lands between a producer and consumers. Therefore, a producer must inform middlemen as well as the ultimate consumers or business users about the product. Wholesalers, in turn must inform retailers and retailers must inform consumers. As the number of potential customers grows and the geographic dimensions of a market expands, the problems and costs of informing the market increase.

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Another purpose of sales promotion is persuasion. The intense competition among different industries puts tremendous pressure on the promotional programmes of sellers. In India, even a product designed to satisfy a basic physiological need requires strong persuasive promotion, because consumers have many alternatives to choose from. In the case of luxury products, for which sales depend on the ability to convince consumers that the product benefits exceed those of other luxuries, persuasion is even more important.

Consumers also must be reminded about a product's availability and its potential to satisfy. Sellers bombard the market place units hundreds of messages everyday in the hope of attracting new consumers and establishing markets for new products. Given the intense competition for consumers attention, even an established firm must constantly remind people about its brand to retain a place in their minds. Much of a firm's sales promotion may be intended simply to offset competitors marketing activity by keeping its brand in front of the market.

4.5 PUBLICITY: CONCEPT AND SIGNIFICANCE

Publicity has its own importance in marketing. Although it was not given importance by marketing managers in the past, it has drawn the attention of strategic writers and marketing exports. Publicity is a part of marketing and customer relations.

When any significant news about a product is made known to the people through a published medium like radio, television, newspaper or otherwise, such kind of act is known as publicity. Publicity has very high credibility in the eyes of organizational buyers as the sponsor does not pay anything for publicity and it is not a part of any promotional program. It is the least costly promotional alternative available for the company that is very effective. Publicity helps to generate sales leads and improves relationship with customers. Technical articles published in trade journals about a company or products with the identity of authors (such articles are called assigned articles) improve the image of the company and the products. They form as a good source of information for customers.

Though publicity is free, there are some associated costs attached to it. The costs incurred are for reasons like obtaining space in the journal or magazine for writing an article, preparing the matter (through professional writers, proof reading, taking approvals by sending to Head Office, etc.) for news release and arranging for it to be placed in the right magazine by contacting the respective editors. But compared to other promotional tools, the costs incurred are very less. Hence, publicity should be well integrated with other promotional tools in order to have effective marketing communication.

Business organization does not publish information by paying for, but information or messages about the goods or services are published in the firm of news articles through communication media. Sometimes publicity is taken as the means of public

Check Your Progress

1. Define advertising.
2. What do you mean by sales promotion?
3. What is direct marketing?

relation. Public relation occupies a broad scope. It develops and maintains positive relation between the organization and its customers, staff, shareholders, government officers and society. Publicity is only an important aspect of public relation.

There is also difference between publicity and advertisement. Advertisement is both informational and promotional whereas publicity is only informational. Advertisement is made for immediate effect on sales but publicity of messages does not have such effect on sales. Sponsor is acknowledged in advertisement for which certain fee is paid. But payment is not needed for publicity nor the name of sponsor is given. So, although both advertisement and publicity are promotional communication methods, there are differences between them.

Thus publicity is such a method of public relation through which information and messages about the products and company are communicated. For this, the concerned business firm neither pays any fee nor can control the media.

Difference between Advertising and Publicity

Advertising differs from publicity in regard to the following points:

- **Paid/non-paid form:** Advertisement is a paid form of communication. Its cost is borne by the advertiser but publicity is any non-paid mention of an organization or its ideas or products in the news media. Publicity cannot be purchased in the usual sense of the term. Any institution can come to the attention of the public by being newsworthy. It has not to pay anything for the publicity, but has to supply the necessary information to the news media.
- **Identification of sponsorer:** Advertisement is issued by an identified sponsor. Publicity does not need an identified sponsor.
- **Control over message:** In advertising, the advertiser exercises control over the type, size, duration, and frequency of the message but in case of publicity, the control lies with the publicity media.

4.6 SALESMANSHIP: TYPES AND TRAITS

Salesmanship or Personal Selling is the oldest and most common form of promotion. It involves direct selling by the manufacturer to the prospective buyer. It is a face-to-face and oral communication with the potential customer for the purpose of persuading the buyer to buy a particular product or service. It is an important method of understanding the needs, nature and behaviour of the prospective customers and giving them full information about the product in question. The information so obtained helps the entrepreneur to manufacture the product according to the demand of customers. Being personal in nature, it is an indispensable technique of promotion. A firm undertakes personal selling with the following objectives:

- To introduce new product or service with personal touch.

- To create demand for the products such that it precedes supply.
- To clarify the doubts of customers personally.
- To create effective selling at least cost and secure repeated sales.
- To provide valuable feedback to the managers.

Salesmen may be classified into the following categories on the basis of their employers:

- **Manufacturer's salesmen:** are employed to sell products either directly to consumers or to the wholesalers or retailers. They have specialised knowledge about the products of their employers. They may be either creative salesman or dealer-servicing salesman. The former are engaged in creating outlets for a new product and contact the dealers to persuade them to handle the product. While the latter provide services to the dealers of their employer's products.
- **Speciality salesmen:** deal in high value goods like computers, automobiles, machines, television sets, etc. They meet the potential customers and explain the usefulness of their product. They also help in the installation of the product at the customer's place.
- **Wholesaler's salesmen:** generally call on the retailer's and book orders. They provide information about the availability of the product to the retailers and help them in getting the supplies.
- **Retailer's salesmen:** deal directly with the consumers. They may be either counter salesmen or outdoor salesmen. The former attends the customers who call at the store. While the latter, visits the prospective customers by carrying samples of goods to persuade them to buy goods from them.

Success of personal selling depends upon the skills of the salesman, the framework in which he works, as well as his knowledge and experience. An effective salesman should be completely aware of the product and should be able to convince the prospective buyer. He should also know well about the company/firm he is representing and be able to answer all the queries of the customers. To be effective, a salesman should have the knowledge of the following types:

- **Knowledge of self:** He should be able to make the best use of his personality by continuously assessing himself and analysing his qualities in the light of the requirements of his job. This will help him to improve upon his strengths and overcome his weaknesses through training and experience.
- **Knowledge of firm:** He should be fully conversant with the history of the firm. He should have a thorough knowledge of the objectives, policies, standing and organizational structure of his firm. Such knowledge will help him to utilize the strong points of the firm in personal selling.
- **Knowledge of product:** He should be able to convince customers about the features and utility of the product by removing their doubts and objections. Thus,

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he should have full knowledge about the nature of the product, manufacturing details, terms and conditions of sale, distribution channels used and promotional activities.

- **Knowledge of competitors:** In order to prove the superiority of his product, he must have full knowledge about the competitive products, their positive and negative features. Knowledge of competitors' sales policies, their brands and prices, etc, is also helpful.
- **Knowledge of customers:** In order to be successful, he must use the right appeal and approach. He should be able to understand the prospects correctly and quickly and to motivate and win them permanently. He should, therefore, have complete knowledge of the nature and type of customers (their age, location, sex, income, education, etc.) and their buying motives (low price, convenience, prestige, fashion, etc).
- **Knowledge of selling techniques:** Above all, he should be well-versed in the principles and techniques of salesmanship. He should pay undivided attention to the customer, be courteous and sympathetic towards customers, never loose patience, consider customer as the king, aim to build permanent customers and goodwill, serve the customer in the best possible manner, etc.

Personal selling has the advantage of being more flexible in operation in contrast to mass or impersonal selling through advertising. Salesmen can tailor their sales presentation to fit the needs, motives and behaviour of individual customers. They can observe the customer's reaction to a particular sales approach and then make necessary adjustment on the spot. The seller can select the target market for its product and concentrate only on the prospective customers. Personal selling is more effective as compared to other tools of promotion because it leads to actual sales.

Case Study of Kellog's: Marketing Strategy for Latin America

In 1980, Peter A, Horekens, marketing director for Kellog company, was faced with the problem of developing a market for ready-to-eat cereals in the Latin American region. Although Kellog had no competition in the ready-to-eat cereal market in this region, they also had no market. Latin Americans did not eat breakfast as the Americans did. The problem was especially prominent in Brazil. To create a market and increase sales in this region, Horekens had to create a nutritious breakfast habit.

Kellogg's®

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Kellog Company, which headquartered in Battlecreek, Michigan, was founded in 1906 by W.K. Kellog. The company continued to operate successfully with sales in 1980 amounting to 2,150.9 million US Dollars. The Kellog Company manufactured and marketed a wide variety of convenience foods with ready-to-eat cereals topping the list. The company's products were manufactured in 18 countries and distributed in 130 countries. The ready-to-eat cereals sales made up the majority of international sales.

In 1980, Kellog International operations accounted for 38 percent of Kellog Company's sales of more than $ 2.0 billion. The United Kingdom was by far Kellog's largest market. Internationally, sales in the ready-to-eat cereal market continued to increase, although in the past few years the competition also had increased. But in Latin America, consumption of ready-to-eat cereals was negligible.

The Latin American Market

The Latin American Market, mainly Mexico and Brazil, showed great potential as a Kellog's ready-to-eat cereal market. The demographics fit the ready-to-eat market, the only problem was that Latin Americans did not eat the traditional American-style breakfast.

The Latin American market included a growing number of families with children. The population mix was becoming younger. The developing economy enabled consumers to spend more of their income on food. Kellog wanted to increase sales in this Latin American region, especially Brazil, but consumers had turned their backs on the American style breakfast. How was Kellog to create a nutritious breakfast habit among the Brazilians?

The company asked J. Walter Thompson, Kellog's advertising agency, to help instill the breakfast habit in Brazil. According to Horekens, "In general, Brazilians do what people in novellas do". Novellas are Brazilian soap operas. J. Walters Thompsons tried to advertise Kellog ready-to-eat cereal and instill the breakfast habit by advertising within a soap opera. The first experience of advertising within a soap opera failed; the advertisement portrayed a boy eating the cereal out of a package.

Kellog wanted to teach the Brazilians how to eat a complete, nutritious breakfast, not just Kellog's cereal. The commercial did not work, because it made Kellog ready-to-eat cereal seem more like a snack than a major part of a complete breakfast. Kellog wanted to portray ready-to-eat cereal as a part of a complete, well-balanced nutritious breakfast. Thus, they needed the cereal to be eaten in a bowl with milk alongwith other foods to make a complete breakfast.

The company believed that the growing population in this region would reinforce the importance of grains as a basic food source. The 1980 population in Brazil was 119 million, which made it the sixth most populated country in the world and

the population was expected to grow to 165 million in the next few years. Within this population growth was an increase in the number of women of childbearing age, which further supported Kellog's potential for a successful cereal market. The structure of the population in Brazil in 1980 was:

- Thirty seven percent of population under age 15.
- Forty-eight percent of population under age 20.
- Twelve percent population over age 50.
- Six percent of population over age 60.

These figures showed that the population of Brazil better fit the market for a ready-to-eat cereal, with the increasing number of children and elderly people as the two largest cereal consuming segments.

The "cult of the family" continued to be the most important institution in the formation of the Brazilian society. This culture ideal was reflected in the ways they conceptualized and evaluated the range of personal and social relations. This seemed to be the way Kellog would have to demonstrate the importance of a nutritional breakfast—by playing up the family and its importance.

Through the use of the novellas, Kellog made a second attempt to teach the Brazilians the importance of breakfast. Most Brazilian families watched these soap operas, composed mostly of family scenes. In their commercials, Kellog opted for scenes that showed the family at the breakfast table. One member of the family, usually the father, took the cereal box, poured the cereal, and then added milk. This scene represented a complete "Kellog" breakfast in a way that Brazilians could relate to. The advertisement focused first on nutrition, then on flavour, and finally on ease of preparation. As a result of this campaign, sales in Brazil increased. Kellog controlled 99.5 percent of the ready-to-eat cereal market in Brazil; however, per capita cereal consumption was less than one ounce or several spoonfuls per Brazilian annually, even after advertising.

Although Kellog controlled the market, there was not much of a market to control. Brazilians had begun to eat breakfast, but Horekens was not sure whether sales would continue to increase. His problem was—how could Kellog further convince the Brazilians of the importance of eating a nutritional breakfast in order to establish a long-term market?

Questions for Discussion

1. Analyse the case to enable you to prepare a report about the given situation.
2. What would be your advice—to continue or quit—to the Board of Directors of Kellog? Explain with reasons the factors which you would consider essential in framing your report?

Credit: Marketing Management-CU

4.7 BUDGETING FOR PROMOTIONAL EXPENSES

"Money does matter a lot."

Advertising or Promotion Budget is the amount of money which can be or has to be spent on advertising of the product to promote it, reach the target consumers and make the sales chart go on the upper side and give reasonable profits to the company.

Before finalizing the advertising budget of an organization or a company, one has to take a look on the favourable and unfavourable market conditions which will have an impact on the advertising budget. The market conditions to watch out for are as follows:

- Frequency of the advertisement
- Competition and clutter
- Market share of the product
- Product life cycle stage

Frequency of the Advertisement

This means the number of times an advertisement has been shown with the description of the product or service, in the granted time slots. So here, if any company needs more advertising frequency for its product, then the company will have to increase its advertising budget.

Competition and Clutter

The companies may have many competitors for its product. And also there are plenty of advertisements shown which is called clutter. The company has to then increase their advertising budget.

Market Share

To get a good market share in comparison to their competitors, the company should have a better product in terms of quality, uniqueness, demand and catchy advertisements with resultant response of the customers. All this is possible if the advertisement budget is high.

Product Life Cycle Stage

If the company is a newcomer or if the product is in its introduction stage, then the company has to keep the budget high to make place in the market with the existing players and to have frequent advertisements. As the time goes on and the product becomes older, the advertising budget can come down as then the product doesn't need frequent advertising.

When the market conditions are studied thoroughly, then the company has to set up its advertising budget accordingly. For setting advertising budget, there are four methods:

They are as follows:

- **Percentage of Sales:** In this method, the budget is decided on the basis of the sales of the product from previous year records or from the predicted future sales. This is a pure prediction based method and best applicable to the companies which have fixed annual sales. But if in case there is a requirement for more promotional activities then this method has a disadvantage because there will be decrease in advertisements as the budget is fixed.
- **Affordability:** This method is generally used by the small companies. Only the companies which have funds and can afford advertising opt for this method. The companies can go for advertising at any time in the whole year whenever they have money to spend. The amount spent also varies from time to time as per the advertisements takes place.
- **Best guess:** This method is basically for newcomers who have just entered the market and they have no knowledge or say. They are not aware of how the market is and how much to spend on advertising. Thus, this method is applied by the higher level executives of the company as they are the only experienced people.

Thus, doing the homework and then moving forward, i.e. searching for best market conditions and setting the best advertising budget will have a great impact on improvement and development of the company.

Advertising Budget Allocation by "Rule of Thumb"

Under this approach, the decisions on the amount to be spent are made by advertising managers in co-operation with the advertising agency. Many companies resort to more than one method of determining the size of their advertising budgets. Some methods which are in common use are as follows:

1. **Profit Maximization:** The best method for determining advertising expenditure is to identify a relationship between the amount spent on advertising and profits, and to spend that amount of money which maximizes the net profits. Since the effects of advertising may be reflected in future sales too, the advertiser maximizes the present value of all future profits at an appropriate rate. Therefore, a very few advertisers are able to implement the profit-maximizing approach to determine their advertising expenditure.
2. **Advertising as a Percentage of Sales:** Advertising Allocation = % of Sales. A pre-determined percentage of the firm's past sales revenue (or projected sales revenue) is allocated to advertising. But the question is—What is the relationship between advertising expenditure and sales revenue? Though it looks simple, it is not an effective way of achieving the objectives. Arbitrary percentage allocation fails to provide for the flexibility. This method ignores the real nature of the advertising job. It is not necessarily geared to the needs of the total marketing

program. But this method is widely used. Its wide use reflects the prevailing uncertainty about the measurement of advertising effectiveness. It is an easy way of minimizing the difficulties of annual budgeting negotiations. It is also a safe method as long as competitors use a similar method. The fixed sum per unit approach differs from the percentage of sales approach in only one respect that it applies a pre-determined allocation to each sales or production unit.

3. **The Objective and Task Approach:** The most desirable method is the objective and task approach. It is goal-oriented. The firm agrees on a set of marketing objectives after intensive market research. The costs of advertising are then calculated. When the resulting amount is within the firm's financial means, it is the advertising budget. It involves the following two steps: First, the organization must define the goals the promotional mix is to accomplish. For example, a 5 per cent increase in market share, or a 10 per cent rise in gross sales, or a 3 per cent addition to net profit, or more likely, a combination of several items. Second, it must determine the amount and the type of promotional activity required to accomplish the objectives set. The sum of these becomes the firm's promotion budget. A crucial assumption underlies the objective and task approach is that the productivity of each advertising rupee is measurable. The task approach starts by asking what the objectives of the advertising campaign are. The "advertisability" of the product is more sharply defined. This approach requires that assumptions about media, copy, and all the other parts of a campaign be co-ordinated to achieve a specific set of objectives. The task approach has special merit in the introduction of a new product. The main problem with this approach is that it is not easy to determine the cost of fulfilling an objective or to decide whether an objective is worth fulfilling. The task method forces advertising managers to engage in advance planning.

4. **Competitive Parity Approach:** This approach ties its budget to the rupees or percentage of sales expended by its competition. This approach tries to match the competitor's outlays and meet competition either on absolute or relative basis. It involves an estimate of industry advertising for the period and the allocation of an amount that is equal to its market share in the industry. Meeting competition's budget does not necessarily relate to the objective of promotion and is inappropriate for most marketing programs. It is a defensive approach. It assumes that the promotion needs of the organization are the same as those of its rival and makes it easy for analyzing the realities of its own competitive situation and to ignore the possibility of other strategies. But the needs will never be the same. It also assumes that budgets arrived at by competitors are correct, but they may have arrived at in a haphazard manner. Besides, their marketing strategies may also be different from our organization. Therefore, this method may be recommended only as a supplement to others. However, the imitate-competitors strategy is most applicable in industries where competition

is in order to prosper and even to survive. In a way, is better than the per cent of sales method as it recognizes that the competition is a key element in marketing and promotes stable relationships.

Competitive parity budgets can be determined in several ways; but all are based on spending approximately the same amount or percentage of sales as one's competitors. Some of the ways include:

(a) Spend the same rupee amount on advertising as a major competitor does

(b) Spend the same percentage of sales on advertising as a major competitor does

(c) Spend the same percentage of sales on advertising as the average for the entire industry

(d) Use one of these "rules of thumb" in a particular market

All these have one common characteristic, that is, the actions of competitors determine the company's advertising budget. But under this situation, a company faces several risks. Sufficient information may not be readily available to estimate the competitor's advertising budget. Such information is derived from secondary sources for some products than others. When only partial information can be obtained, such as expenditure on media, competitive parity may be misleading. It implies that all firms in an industry have the same opportunities but not so in practice. For example, a company introduces a new product to compete with a competitor's already established brand, the opportunity for advertising for these two brands would be entirely different.

5. **All the Organization can Afford Approach:** It involves the income statement and the balance sheet. It asks how much is available to the firm. This question is partially answered by anticipated sales and margins. The decisions based wholly on them ignore the requirements of the advertising. The basic weakness is that it does not solve the problem of "how much should we spend" by asking: "What can we profitably spend?" In some instances, companies adopt pricing policies or others strategies intended to yield more advertising rupees. Some may spend whatever rupees are available for promotion, the only limit being the firm's need for liquidity. This approach does ensure that advertising expenditures are assessed in the light of the profit objectives. It does put advertising in perspective with other corporate functions as contributors to the achievements of objectives.

6. **By Using Judgment:** This method rely's upon the judgement of experienced managers. Over the years, some of these individuals develop a feel for the market that permits them to arrive at appropriate decisions, given the organization's objectives and limitations. It is a vital input for the determination of the budget. When the management uses other methods, it should temper them with the

judgemental evaluations made by experienced managers. Judgement is subject to error and bias. Other methods should supplement this technique.

To conclude, promotion may be viewed as a long-run process. Joel Dean has indicated that advertising should be seen as a business investment, in the same sense as opening a new plant or spending additional funds on improved package design.

4.8 DISTRIBUTION MIX DECISIONS

A company's channel decisions directly affect every other marketing decision. Place decisions, for example, affect pricing. Marketers that distribute products through mass merchandisers such as Wal-Mart will have different pricing objectives and strategies than will those that sell to specialty stores. Distribution decisions can sometimes give a product a distinct position in the market. The choice of retailers and other intermediaries is strongly tied to the product itself. Manufacturers select mass merchandisers to sell mid-price-range products while they distribute top-of-the-line products through high-end department and specialty stores. The firm's sales force and communications decisions depend on how much persuasion, training, motivation, and support its channel partners need. Whether a company develops or acquires certain new products may depend on how well those products fit the capabilities of its channel members.

Some companies pay too little attention to their distribution channels. Others, such as FedEx, Dell Computer, and Charles Schwab have used imaginative distribution systems to gain a competitive advantage.

Functions of Distribution Channels

Distribution channels perform a number of functions that make possible the flow of goods from the producer to the customer. These functions must be handled by someone in the channel. Though the type of organization that performs the different functions can vary from channel to channel, the functions themselves cannot be eliminated. Channels provide time, place, and ownership utility. They make products available when, where, and in the sizes and quantities that customers want. Distribution channels provide a number of logistics or physical distribution functions that increase the efficiency of the flow of goods from producer to customer. Distribution channels create efficiencies by reducing the number of transactions necessary for goods to flow from many different manufacturers to large numbers of customers. This occurs in two ways. The first is called breaking bulk. Wholesalers and retailers purchase large quantities of goods from manufacturers but sell only one or a few at a time to many different customers. Second, channel intermediaries reduce the number of transactions by creating assortments—providing a variety of products in one location—so that customers can conveniently buy many different items from one seller at one time. Channels are efficient. The transportation and

storage of goods is another type of physical distribution function. Retailers and other channel members move the goods from the production site to other locations where they are held until they are wanted by customers. Channel intermediaries also perform a number of facilitating functions, functions that make the purchase process easier for customers and manufacturers. Intermediaries often provide customer services such as offering credit to buyers and accepting customer returns. Customer services are often more important in B2B markets in which customers purchase larger quantities of higher-priced products.

Some wholesalers and retailers assist the manufacturer by providing repair and maintenance service for products they handle. Channel members also perform a risk-taking function. If a retailer buys a product from a manufacturer and it doesn't sell, it is "stuck" with the item and will lose money. Last, channel members perform a variety of communication and transaction functions. Wholesalers buy products to make them available for retailers and sell products to other channel members. Retailers handle transactions with final consumers. Channel members can provide two-way communication for manufacturers. They may supply the sales force, advertising, and other marketing communications necessary to inform consumers and persuade them to buy. And the channel members can be invaluable sources of information on consumer complaints, changing tastes, and new competitors in the market.

Channels

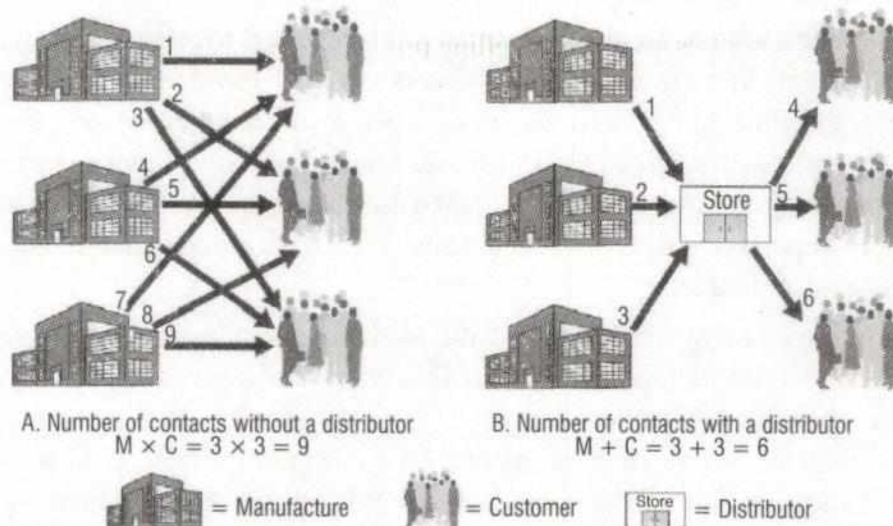
A number of alternate 'channels' of distribution may be available:

- Selling direct, such as via mail order, Internet and telephone sales
- Agent, who typically sells directly on behalf of the producer
- Distributor (also called wholesaler), who sells to retailers
- Retailer (also called dealer or reseller), who sells to end customers
- Advertisement typically used for consumption goods

Distribution channels may not be restricted to physical products alone. They may be just as important for moving a service from producer to consumer in certain sectors, since both direct and indirect channels may be used. Hotels, for example, may sell their services (typically rooms) directly or through travel agents, tour operators, airlines, tourist boards, centralized reservation systems, etc.

There have also been some innovations in the distribution of services. For example, there has been an increase in franchising and in rental services—the latter offering anything from televisions through tools. There has also been some evidence of service integration, with services linking together, particularly in the travel and tourism sectors. For example, links now exist between airlines, hotels and car rental services. In addition, there has been a significant increase in retail outlets for the service sector. Outlets such as estate agencies and building society offices are crowding out traditional grocers from major shopping areas.

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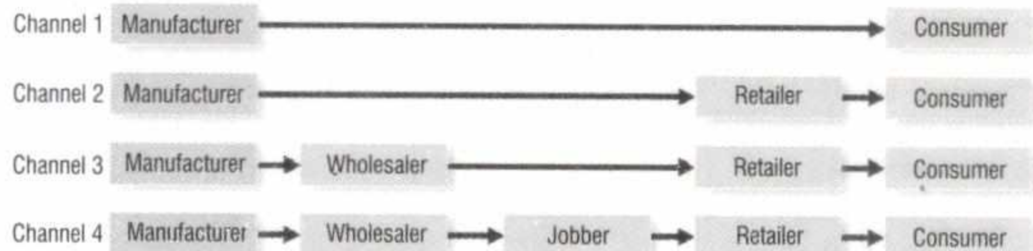


Channel members

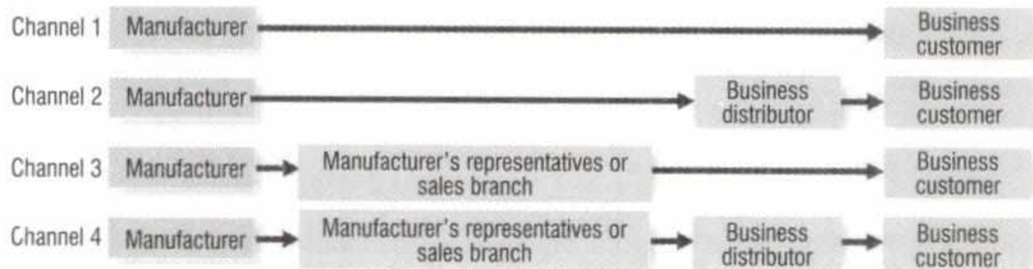
Distribution channels can have a number of levels. Kotler defined the simplest level, that of direct contact with no intermediaries involved, as the 'zero-level' channel.

The next level, the 'one-level' channel, features just one intermediary; in consumer goods a retailer, for industrial goods a distributor. In small markets (such as small countries) it is practical to reach the whole market using just one- and zero-level channels.

In large markets (such as larger countries) a second level, a wholesaler for example, is now mainly used to extend distribution to the large number of small, neighborhood retailers.



A. Customer marketing channels



B. Business marketing channels

Wholesaling

Wholesaling is all activities involved in selling products to those buying for resale or business use. Wholesaling intermediaries are firms that handle the flow of products from the manufacturer to the retailer or business user.

Wholesaling intermediaries add value by performing one or more of the following channel functions:

- Selling and Promoting
- Buying and Assortment Building
- Bulk-Breaking
- Warehousing
- Transportation
- Financing
- Risk Bearing
- Market Information—giving information to suppliers and customers about competitors, new products, and price developments
- Management Services and Advice—helping retailers train their sales clerks, improving store layouts and displays, and setting up accounting and inventory control systems.

Independent Intermediaries

Independent intermediaries do business with many different manufacturers and many different customers. Because they are not owned or controlled by any manufacturer, they make it possible for many manufacturers to serve customers throughout the world while keeping prices low.

Merchant Wholesalers

Merchant wholesalers are independent intermediaries that buy goods from manufacturers and sell to retailers and other B2B customers. Because merchant wholesalers take title to the goods, they assume certain risks and can suffer losses if products get damaged, become out-of-date or obsolete, are stolen, or just don't sell. At the same time, because they own the products, they are free to develop their own marketing strategies including setting prices. Merchant wholesalers include full-service merchant wholesalers and limited-service wholesalers. Limited-service wholesalers are comprised of cash-and-carry wholesalers, truck jobbers, drop shippers, mail-order wholesalers, and rack jobbers.

Merchandise Agents or Brokers

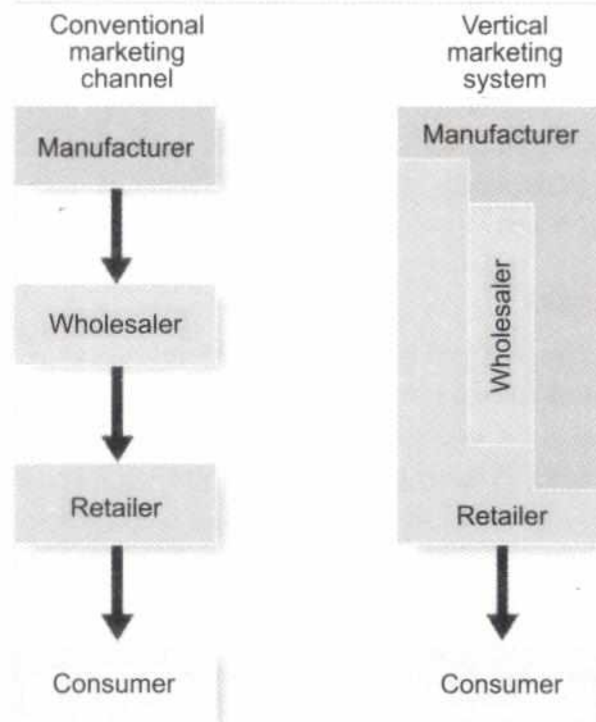
Merchandise agents or brokers are a second major type of independent intermediary. Agents and brokers provide services in exchange for commissions. They may or may not take possession of the product, but they never take title; that is, they do not

accept legal ownership of the product. Agents normally represent buyers or sellers on an ongoing basis, whereas brokers are employed by clients for a short period of time. Merchandise agents or brokers include manufacturers' agents (manufacturers' reps), selling agents, commission merchants, and merchandise brokers.

Manufacturer-Owned Intermediaries

Manufacturer-owned intermediaries are set up by manufacturers in order to have separate business units that perform all of the functions of independent intermediaries, while at the same time maintaining complete control over the channel. Manufacturer-owned intermediaries include sales branches, sales offices, and manufacturers' showrooms. Sales branches carry inventory and provide sales and service to customers in a specific geographic area. Sales offices do not carry inventory but provide selling functions for the manufacturer in a specific geographic area. Because they allow members of the sales force to be located close to customers, they reduce selling costs and provide better customer service. Manufacturers' showrooms permanently display products for customers to visit. They are often located in or near large merchandise marts, such as the furniture market in High Point, North Carolina.

Vertical Marketing Systems



A vertical marketing system (VMS) is a distribution channel structure in which producers, wholesalers, and retailers act as a unified system. One channel member owns the others, has contracts with them, or has so much power that they all cooperate. A conventional distribution channel consists of one or more independent producers,

wholesalers, and retailers. A vertical marketing system, on the other hand, provides a way to resolve the channel conflict that can occur in a conventional distribution channel where channel members are separate businesses seeking to maximize their own profits—even at the expense sometimes of the system as a whole. The VMS can be dominated by the producer, wholesaler, or retailer. There are three major types of vertical marketing systems: corporate, contractual, and administered.

- A corporate VMS is a vertical marketing system that combines successive stages of production and distribution under single ownership—channel leadership is established through common ownership. A little-known Italian eyewear maker, Luxottica, sells its many famous eyewear brands—including Giorgio, Armani, Yves Saint Laurent, and Ray-Ban—through the world's largest optical chain, LensCrafters, which it also owns.
- A contractual VMS is a vertical marketing system in which independent firms at different levels of production and distribution join together through contracts to obtain more economies or sales impact than they could achieve alone. Coordination and conflict management are attained through contractual agreements among channel members. The franchise organization is the most common type of contractual relationship. There are three types of franchises: manufacturer-sponsored retailer franchise system (Ford Motor Co.), manufacturer-sponsored wholesaler franchise system (Coca-Cola bottlers), and service-firm-sponsored retailer franchise system (McDonald's). The fact that most consumers cannot tell the difference between contractual and corporate VMSs shows how successfully the contractual organizations compete with corporate chains.
- An administered VMS is a vertical marketing system that coordinates successive stages of production and distribution, not through common ownership or contractual ties, but through the size and power of one of the parties. Manufacturers of a top brand can obtain strong trade cooperation and support from resellers (P&G). Large retailers such as Walmart can exert strong influence on the manufacturers that supply the products they sell.

4.9 LOCAL, NATIONAL, REGIONAL AND GLOBAL CHOICES

Generally advertising is used primarily for low cost, mass volume consumer products. Products like fertilizers, canned and fresh produce and tobacco—all products which are used by end consumers—are the subject of heavy promotion. In intermediate products like timber, leather and cotton the advertising may be more limited in nature due to the fewer end purchasers of the raw material. Until recently, per capita GNP and advertising were directly correlated, due to the more widespread availability of media and higher incomes, giving a larger potential market for products. This is no longer the case. Optimal levels of advertising occur where the advertising/sales

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overseas effect is equal to the marginal advertising expenditure. The problem is in estimating the levels of each.

Local, National and Regional Choices

Local Choices in Promotion and Distribution

Any marketer must employ as many local choices as possible. Actually, every small geographical area is local in one sense or other. Niche strategies may be adopted. There used to be local leader-heroes, heroic/historic events, local customs and practices around which marketing promotion may be built. In India, there are numerous such instances which every marketer exploits to push his offering pulling the customers effectively. Actually, local markets as sub-sets of national market have greater meaning in India with linguistic diversities which give rise to diverse local functions, new-year days, cultural events, etc. Distribution channel is also modified, lengthened/shortened/value added/ made-flexible and the like.

National Choices in Promotion and Distribution

For an MNC or a firm interested in global presence, it must have clear-cut knowledge of diversities of nations in respect of consumer behaviour. Its promotion and distribution strategies must be amenable for adaptation. The different national markets may need different 'reach and match' approaches. Take Singapore and Malaysia as examples. Though they are neighbours, life styles differ. Affordability also differs. Pricey items may easily find acceptability in Singapore, but more price-range alternatives are demanded in Malaysia. The shopping lists of visitors to these two nations, both attracting large number of foreign tourists, vary between the nations. Hence, the two nations cannot be clubbed together. Similarly, in the Gulf nations, Saudi Arabia cannot be treated similar to Sultanate of Oman or so as to cultural diversity. Similarly, USA /Canada cannot be treated as similar to Mexico as depicted below in table. You know Indian consumers differ significantly from Sri Lanka or Pakistan, the former showing more variety, while the later projecting a high degree of uniformity. Hence, there is no choice but to offer choices across nations in marketing mix factors offered by international marketers.

Cultural Comparisons of Mexico with USA/Canada

Aspect	Mexico	Canada/USA
Family	Family is the first priority. Children are celebrated and sheltered Wife fulfils domestic role. Mobility is limited.	Family is usually second to work. Children often minimally parented; are independent. Wife often fulfils dual roles. Mobility is quite common.

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Religion	Long Roman Catholic tradition. Fatalistic outlook. "As God wills."	Mixed religions. "Master of own life" outlook.
Education	Memorization. Emphasis on theoretical. Rigid, broad curriculum.	Analytical approach. Emphasis on the practical. Narrow, in-depth specialization.
Nationalism	Very nationalistic. Proud of long history and traditions. Reluctant to settle outside Mexico.	(U.S.) Very patriotic. Proud of "American way of life." Assumes everyone shares his/ her materialistic values. (Canadian) Less than U.S. Often has more "World" view.
Personal Sensitivity	Difficulty separating work and personal relationships. Sensitive to differences of opinion. Fears loss of face, especially publicly. Shuns confrontation.	Separates work from emotions/ personal relationships. Sensitivity seen as weakness. Tough business front. Has difficulty with subtlety.
Etiquette	"Old world" formality. Etiquette and manners seen as measure of breeding.	Formality often sacrificed for efficiency. "Let's get to the point" approach.
Personal Appearance	Dress and grooming are status symbols.	Appearance is secondary to performance.
Status	Title and position are more important than money in eyes of society.	Money is main status measure and is reward for achievement.
Aesthetics	Aesthetic side of life is important even at work.	No time for "useless frills".
Ethics	Truth is tempered by need for diplomacy. Truth is a relative concept.	Direct Yes/No answers given and expected. Truth seen as absolute value.

Source: *Management in Two Cultures - Bridging the gap between US and Mexico*, by Eva Kras, 1996-2006.

Regional Choices in Promotion and Distribution

One convenient point is that there exists some kind of clusters among nations in terms of product/ price/promotion/preference. This kind of pattern runs parallel to continental divides of nations. Helpfully, marketers segment markets accordingly as

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Asian, African, American or European markets or sometimes as Atlantic or Pacific or Indian Oceanic or Gulf markets. Even trade blocks emerged on similar lines. Nowadays, product standardization is up to the point of 'regional' (that is, nation-aggregates) tastes and product adaptation begins where region-based standardization ends. Cell phones, cars, toffees, etc. are the examples. The offerings for South Asia are different from Gulf or from South East Asia. Needless to say, offerings to the North Atlantic region differ from that made to North African.

Marketers aren't worried of this diversity, with flexi-technology making possible mass-customization.

Pursuing multi-domestic strategies on a market-by-market basis, companies began to enlarge and build considerable local presence. Regions are treated as single markets and products are standardized by region or globally; promotion projects a uniform image. Although this orientation improves coordination and control, it often discounts national differences. The French automobile industry offers a good illustration of the evolution of an international marketing strategy. In the 1980s, according to an industry analyst for Eurofinance:

"For years, the French industry depended on the domestic market. Then in the 1970s, it developed a Europewide market. Now it finds it must crack the world market if it expects to survive. And it is getting a late start."

Global Choices

When organizations advertise across international boundaries a number of important factors have to be taken into consideration. Whilst the process is ostensibly straightforward, (that is someone (seller) says something (message) to someone (buyer) through a medium) the process is compounded by certain factors.

These mitigating factors can be called "noise" and have an effect on the decision to "extend", "adapt" or "create" new messages.

Language differences may mean that straight translation is not enough when it comes to message design. Advertising may also play different roles within developed, between developed and underdeveloped and within underdeveloped countries. In developing countries "education" and "information" may be paramount objectives. In developed countries, the objectives may be more persuasive.

Cultural differences may account for the greatest challenge. However, many, notably Elinder (1961) challenged the need to adapt messages and images, as he argued that consumer differences between countries are diminishing. Changes may be needed only in translation. However, this is only one point of view, as there is no doubt that cultural differences do exist across the world. For example, it would be quite unacceptable to have swimsuited ladies advertising sun care products in Moslem countries.

Three major difficulties occur in attempting to communicate internationally: the message may not get through to the intended recipient, due to a lack of media knowledge; the message may get through but not be understood, due to lack of

audience understanding and: the message may get through, be understood but not provoke action. This may be due to lack of cultural understanding.

Media availability is a mitigating factor. Take for example, television. Whilst in Africa a number of countries do have it, the extent of its use and time available may be limited. Media use and availability, coupled with the type of message which may or may not be used, is tied to government control. Government may ban types of advertising, as is the case of cigarettes on British television. Intending advertisers should refer to the appropriate codes of advertising practice available in each country.

Case Study: L'Oreal's Promotional Strategies in Indian Cosmetics Market for Garnier

Garnier has been very active and upfront in adopting new promotional techniques to market its products. The company follows a very popular technique to advertise and market its products that is the viral marketing policy. Viral marketing is a term coined to define the productive ways a marketing message is made available. And corporates are using the medium to circulate brands and brand messages. The idea has caught on like a virus, as efficiently as Information Technology has entered households and businesses.



Firms are now structuring their businesses in a way that allows them to grow like a virus and lock out the existing brick and mortar competitors through innovative pricing and exploitation of competitors' distribution channels. The beauty of this marketing technique is that none of it requires any marketing. Customers, who have caught the virus, do the selling. Viral marketing describes any strategy that encourages individuals to pass on a marketing message to others, creating the potential for exponential growth in the message's exposure and influence. Like viruses, such strategies take advantage of rapid multiplication to explode the message to thousands, to millions.

Off the Internet, viral marketing has been referred to as "word-of-mouth", "creating a buzz", "leveraging the media" and even "network marketing." It's a deceptively simple concept: Create a message, send it via e-mail, and make it so compelling that recipients want to pass it on to everyone in their address book. Advertisers are hot on the tactic, and the idea of putting consumers to work spreading the word about a brand or service seems sound.

What is unique about the concept is that where brands or brand ideas are exchanged within communities, they are idea-led, not advertising-led. There

Check Your Progress

Fill in the Blanks

4. .... is the oldest and most common form of promotion.
5. .... is the amount of money which can be or has to be spent on advertising of the product to promote it, reach the target consumers and make the sales chart go on the upper side and give reasonable profits to the company.
6. .... is all activities involved in selling products to those buying for resale or business use.
7. .... do business with many different manufacturers and many different customers.

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are some high-profile viral success stories. Like Hotmail. By simply sending an e-mail, consumers hawked the service because every message contained a Hotmail ad that helped it grow to 12 million accounts in its first year, way back in 1996. The 1999-hit film 'The Blair Witch Project' also benefited from a similar contagion. On web sites and in chat rooms, the film's promoters hinted that the fictional tale was really a documentary and let the bug run wild. In most cases, the consumers were bitten.

When Garnier launched its Fructis shampoo, they latched on to the idea. The firm had to introduce the aspect of five times stronger hair and the firm had a braid competition whereby consumers could register on a site and create a knot on the Fructis brand, as part of their entry into the contest. The knot creation was actually created (visually presented on the site) and as a next step, consumers were expected to invite their friends to visit the braid and add to their score. A record 76,000 consumers created their own knot on the braid and forwarded the link to more than 82,000 of their friends, a survey report indicated. Viral marketers practice delayed gratification. They may not profit today, or tomorrow, but if they can generate a groundswell of interest from something free, they know they will profit soon and for the rest of their lives. Since 'Free' happens to be the most powerful word in a marketer's vocabulary, most viral marketing programmes have attached themselves to it. The idea is to give away valuable products or services to attract attention. And, more importantly, someone else's resources are depleted rather than our own. Garnier has positioned itself as a lifestyle product mainly targeting teenagers and young girls. This is very evident from Garnier ads be it for Garnier fructis shampoos or for hair colour. In a recent advertisement of Garnier hair colour, a daughter advises her mother to try the product and thus makes an attempt to promote the product among middle-aged women. Hence, expanding the base of the target segment gives a whole new market to marketers, provided they are successful in convincing the customers of the second-rung segment.

Companies need to be very strategic in presenting the product and its features to attract another segment. At the same time, companies need to be sensitive about the impact of targeting other segments on the existing target segment. It may be damaging, especially, if in a process of expanding its customer base, a premier brand is targeted at the aspiring middle-class also. In case of any signals of lowering demand with the existing target group, companies should adopt line extensions by bringing suitable changes in the products.

Advertising and marketing specialists are aiming at young, urban Indian women, who are earning their own money and are potential customers for a host of products, including name-brand clothes, cosmetics and new cars.

Increasing its ad spend for the launch of its new products, L'Oreal has been relying more on its international campaigns to make an impact in the Indian market. McCann Erickson in Mumbai handles the L'Oreal and Maybelline account

while Publicis India is in charge of Garnier. "The ad accounts have been aligned according to our international affiliations with these agencies and we try to have a mix of both the Indian and international ads," says Mr. Rajgopal.

L'Oreal India currently has three brands in its consumer products portfolio and there are product overlaps between its hair care, skin care and colour cosmetics brands. Garnier, L'Oreal and Maybelline have been defined by their price segments and positioning.

Source: *Scribd.com*

4.10 SUMMARY

- Promotion and distribution are other important elements of marketing mix. Sales promotion is an activity used by the industrial marketer to boost the immediate sales of a product or service.
- Promotion looks to communicate the company's message across to the consumer. The four main tools of promotion are advertising, sales promotion, public relation and direct marketing.
- The word advertising originates from a Latin word advertise, which means to turn to. The dictionary meaning of the term is "to give public notice or to announce publicly". Advertising may be defined as the process of buying sponsor-identified media space or time in order to promote a product or an idea.
- Sales promotion consists of diverse collection of incentive tools, mostly short-term designed to stimulate quicker and / or greater purchase of a particular product by consumers or the trade. Whereas advertising offers a reason to buy, sales promotion offers an incentive to buy.
- Publicity has its own importance in marketing. Although it was not given importance by marketing managers in the past, it has drawn attention of strategic writers and marketing exports. Publicity is a part of marketing and customer relations.
- Salesmanship or Personal Selling is the oldest and most common form of promotion. It involves direct selling by the manufacturer to the prospective buyer.
- Advertising or Promotion Budget is the amount of money which can be or has to be spent on advertising of the product to promote it, reach the target consumers and make the sales chart go on the upper side and give reasonable profits to the company.
- Distribution channels perform a number of functions that make possible the flow of goods from the producer to the customer.

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4.11 KEY TERMS

- **Advertising:** Advertising is defined as any form of paid communication or promotion for product, service and idea. Advertisement is not only used by companies but in many cases by museum, government and charitable organizations.
- **Promotion:** Promotion is an incentive tool used to drive up short-term sales. Promotion can be launched directed at consumer or trade.
- **Salesmanship:** Salesmanship or Personal Selling is the oldest and most common form of promotion. It involves direct selling by the manufacturer to the prospective buyer.
- **Vertical marketing system (VMS):** A VMS is a distribution channel structure in which producers, wholesalers, and retailers act as a unified system.

4.12 ANSWERS TO 'CHECK YOUR PROGRESS'

1. Advertising is defined as any form of paid communication or promotion for product, service and idea. Advertisement is not only used by companies but in many cases by museum, government and charitable organizations.
2. Sales promotion consists of diverse collection of incentive tools, mostly short-term designed to stimulate quicker and / or greater purchase of a particular product by consumers or the trade.
3. Direct marketing can be used to deliver message or service. Direct marketing has shown tremendous growth in recent years.
4. Salesmanship or personal selling
5. Advertising or promotion budget
6. Wholesaling
7. Independent intermediaries

4.13 QUESTIONS AND EXERCISES

Short Answer Questions

1. What are the main tools of promotion?
2. What do you mean by advertisement?
3. What are the key objectives of advertising?
4. Define sales promotion.

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5. What are the key objectives of sales promotion?
6. What are the key differences between advertising and publicity?
7. What is Vertical Marketing System (VMS)?
8. Who are the merchant wholesalers?

Long Answer Questions

1. Why organizations need advertisement? What are the different types of advertisement?
2. Discuss the types and relevance of sales promotion.
3. What is publicity? Discuss the significance of publicity.
4. Discuss the types and traits of salesmanship.
5. What are the key rules to remember to allocate budget for promotional expenses?
6. Write a detailed note on distribution mix decisions.
7. Discuss the functions of distribution channels.
8. Discuss the approach of advertising budget allocation by "Rule of Thumb".

5. What are the key objectives of sales promotion?
6. What are the key differences between advertising and publicity?
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Long Answer Questions

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UNIT 5 SUPPLY CHAIN SOFTWARE TECHNOLOGY

Structure

5.0 INTRODUCTION

Supply Chain Management is a broad-based function which encompasses all business and operational processes involved in but not limited to procurement, manufacturing, and finished goods transportation, warehousing and distribution and inventory Management.

In a globalized business scenario characterized by geographically spread markets, raw material procurement sources across the world and cheaper manufacturing and labour markets being available in developing world, the business of meeting demand with supply is constantly changing and evolving.

Global business has been fuelled and enabled by the IT Technology which has redefined all aspects of business today. All businesses today are run on ERP—Enterprise Resource Planning which provides the organizations with tools to manage all the functions including procurement, production, sales and finance management in seamless and integrated manner.

These software systems like SAP, Oracle, People Soft etc., have taken over and enhanced the business processes which were traditionally being managed manually.

Demand planning, forecasting, global procurement management are some of the enabling tools on which the global procurement strategies are built and managed. The availability of these sophisticated systems has further enabled companies to implement good and cost-effective manufacturing practices like JIT, Kanban, VMI etc.

Finished goods distribution, transportation and inventory management, besides sales process is again driven by the various ERP modules combined with additional specific applications as required. ERP has enabled companies to manage their business processes in different markets and countries under one common business process thus providing standardization and control. The complex network of various processes, software platforms and applications and different software tools used by various vendors and agents in the entire chain drive the supply chain of the companies.

E-commerce has further redefined the way business is carried on. Online purchase has impacted the way supply chains are organized and markets are driven. Customer behaviour and preferences are changing as online marketing is establishing a one-to-one contact with the customer and is able to offer a personalized experience. The instant delivery of the information through internet elicits immediate response and action from the customer. The sales lead time is rapidly decreasing. The demanding customer therefore needs to be serviced immediately at the same speed.

The Internet technology has further opened up the geographical boundaries for the companies. Any person sitting in any corner of the globe is able to purchase a product online at the click of a button. The companies have to be well equipped with the logistics and supply chain network to be able to service the customer.

When in a global scenario, goods and services move through multiple chains involving many agents including transporters, forwarders, customs, distribution centres, distributors and lastly the retail outlets. Availability of data, documentation and information become the lifeline for the organization to be able to take decisions and ensure seamless processes and control the supply chain.

5.1 UNIT OBJECTIVES

After going through this unit, you will be able to:

- Describe the key supply chain software like WMS, TMS, OMS, WCS, etc.
- Conduct software evaluation and selection
- Describe logistics network optimization
- Describe the concept of transport routing, mileage and mapping technology
- Define RFID technology
- Explain integrated GPS, wireless data and micro-chip technology system.

5.2 WMS, TMS, LMS, OMS, WCS AND NETWORK OPTIMIZATION

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Supply Chain Management (SCM) software can have tremendous financial benefits for companies. Some businesses have saved millions just by automating their supply chains, but those savings gains often do not come easily. When it comes to implementation, supply chain management software is one of the most difficult systems to effectively put in place. However, there are ways to prevent SCM implementation problems. The following are the key software used in supply chain management:

5.2.1 WMS (Warehouse Management System)

A warehouse management system is the combination of hardware computing devices, mobile and desktop software and peripheral interfaces for utilizing in organizing all aspects of a warehouse and stockyard. At its centre, a warehouse management system is capable of placing inventory, giving configurable management for exact warehouse tasks and organizing inventory as it enters and exits the warehouse. Of course, the difficulty of a warehouse management system is directly related to the difficulty of the warehouse that it will serve.

For small warehouse operations, slightly more than an inventory locator, inventory counting module, and a basic shipping-receiving package may be required. In some situations, a warehouse management system may not be needed at all. Because the WMS usually needs the expertise of Information Technology (IT) professionals, it only makes sense to implement a warehouse management system if the cost lessening benefits of owning such a system can make up for the costs associated with the IT expend regardless of whether those resources are outsourced or staffed.

Warehouse management systems implementing automatic data detain identification technology, such as mobile computers, barcode scanners and RFID, and can professionally supervise product flow all through the warehouse. Once data has been composed for various warehouse responsibilities or inventory manage processes, the data is warehoused in a relational database system allowing managers visibility into the real-time rank of goods in the warehouse.

A warehouse management system, or WMS, is a key part of the supply chain. It primarily aims to control the movement and storage of materials within a warehouse and processes the associated transactions, including shipping, receiving, put-away and picking. The systems also direct and optimize stock put-away based on real-time information about the status of bin utilization.

Warehouse management system often utilizes Auto ID Data Capture (AIDC) technology, such as barcode scanners, mobile computers, wireless LANs and potentially Radio Frequency Identification (RFID) to efficiently monitor the flow of products. Once data has been collected, there is either a batch synchronization

with, or a real-time wireless transmission to a central database. The database can then provide useful reports about the status of goods in the warehouse.

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The objective of a warehouse management system is to provide a set of computerized procedures to handle the receipt of stock and returns into a warehouse facility, model and manage the logical representation of the physical storage facilities (e.g. racking, etc.), manage the stock within the facility and enable a seamless link to order processing and logistics management in order to pick, pack and ship product out of the facility.

Warehouse management systems can be standalone systems or modules of an ERP system or supply chain execution suite.

The primary purpose of a WMS is to control the movement and storage of materials within a warehouse—you might even describe it as the legs at the end-of-the line which automate the store, traffic and shipping management.

In its simplest form, the WMS can date track products during the production process and act as an interpreter and message buffer between existing ERP and WMS systems. Warehouse management is not just managing within the boundaries of a warehouse. Today, it is much wider and goes beyond the physical boundaries. Inventory management, inventory planning, cost management, IT applications and communication technology to be used are all related to warehouse management. The container storage, loading and unloading are also covered by warehouse management today. Warehouse management today is a part of SCM and demand management. Even production management is to a great extent dependent on warehouse management. Efficient warehouse management gives a cutting edge to a retail chain distribution company. Warehouse management does not just start with receipt of material but it actually starts with actual initial planning when container design is made for a product. Warehouse design and process design within the warehouse (e.g. Wave Picking) are also parts of warehouse management. Warehouse management is a part of logistics and SCM.

Warehouse management monitors the progress of products through the warehouse. It involves the physical warehouse infrastructure, tracking systems, and communication between product stations.

Warehouse management deals with receipt, storage and movement of goods, normally finished goods, to intermediate storage locations or to final customer. In the multi-echelon model for distribution, there are levels of warehouses, starting with the Central Warehouse(s), regional warehouses serviced by the central warehouses and retail warehouses serviced by the regional warehouses and so on. The objective of warehouse management is to help in optimal cost of timely order fulfilment by managing the resources economically. Warehouse management is defined as, "Management of storage of products and services rendered on the products within the four walls of a warehouse."

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The Roles of Warehouse Management System are:

- WMS will reduce inventory
- WMS will reduce labour costs
- WMS will increase storage capacity
- WMS will increase customer service
- WMS will increase inventory accuracy

5.2.2 TMS (Transportation Management System)

A transportation management system (TMS) helps companies efficiently, reliably, and cost-effectively to move freight from origin to destination. TMS encompasses solutions for moving freight in all modes and also includes intermodal movements.

The TMS processes include freight transported inbound or outbound, domestically or internationally, and using transportation assets the company owns (the fleet management segment) or are owned by an outside service provider (the planning and execution segment). The freight managed by a TMS, ranges in size from parcels to bulk commodities.

The transportation management market has two interesting characteristics that distinguish it among enterprise software markets. First, the planning and execution application market segment generates a much higher percentage of revenues from SaaS. Potential customers are anxious to understand the pros and cons of SaaS in contrast to traditional behind the firewall applications. Secondly, managed services are becoming a significant revenue stream for certain leading TMS suppliers. Market share leadership looks very different when managed services are included.

Strategic Issues

With the global economic rebound, the TMS market has rebounded as well. In order to help their cause, suppliers must increase their value proposition to users.

- What trends are strengthening the TMS market? What do suppliers need to do to capitalize on those trends?
- What are the strengths and weaknesses of planning and executing solutions based on the architectural platform?
- What is the forecast for SaaS? Do potential customers understand the issues associated with SaaS?
- How can fleet management applications improve their value proposition?
- How are managed services impacting the market?

5.2.3 LMS (Labour Management System)

The WMS directs activities, but the labour management system (LMS) determines how many workers are needed and where they're needed to do the job efficiently. It can also plan, manage, measure and report on the performance of warehouse personnel by comparing the work against a set of engineered labour standards. Additionally,

the LMS can monitor work during a shift, provide real-time feedback to supervisors and associates, and use business intelligence tools to proactively address personnel situations before they become customer service problems.

The LMS is typically an application that integrates into a Warehouse Management System (WMS). There are several different types of LMS applications with a wide range of capabilities. The main difference is whether LMS applications are predictive or reactive.

The reactive LMS is essentially an "after the fact" reporting system that tells management the work that has been done by the operators within the warehouse operation. The typical scenario is that a daily report provides summary information by: job function; operator; and time of day; such that management can understand the throughput productivity rates by associate. While these systems may be informative, they are generally less effective than predictive LMS applications.

The predictive LMS application predicts the duration of time required to complete a work task or process. These LMS applications are often sophisticated and may require detailed XYZ location coordinates such that every work task has a travel time that can be calculated based on the associate's current location in the warehouse. A robust LMS application will enable engineered labour standards to serve as the basis for predicting the time required to perform work tasks. Throughout the day an associate can be kept informed of its progress versus the expected standard.

The deployment of predictive labour standards typically requires a trained industrial engineering resource who knows the standard number of seconds required to reach into a pick location, to scan a label, to grasp a case, to place the case onto a pallet, to capture any required data into the RF terminal, to travel, etc. Since labour standards can be deployed for any direct labour job functions from receiving through shipping, the industrial engineer relies extensively on experience, and time and motion studies to develop fair standards that are realistically achievable for each work process. In distribution centres with organized labour unions, the engineer must develop labor standards that are negotiated with and accepted by the union.

It is important to understand that LMS applications are highly specialized solutions that can be purchased as standalone best of breed applications or as integrated modules within a suite of supply chain execution or WMS software applications. It is not unusual for engineered labour standards to provide a 10–15% productivity increase in high volume distribution centres such that the return on investment can be less than 18 months. The reason for this is simple–people who work in distribution centres appreciate having an understanding of how long it should take to do their job.

5.2.4 OMS (Order Management System)

Filling an order begins with capturing order information from the customer. The order management system (OMS) may receive orders by fax, phone, EDI (electronic data interchange) or on the Web. Because there are a number of order and delivery scenarios, the OMS has to be heterogeneous with the functionality to deal with

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multi-channel capture and multi-channel fulfilment channels. Multi-enterprise OMS sits above the ERP and presents one face to the customer: Place an order and the OMS will parse out the different line items of an order to the right division, the right manufacturing plant, the right third-party distributor or the right warehouse.

An order management system is a computer program used to automate steps of a buying and selling process. These programs are used by many industries to streamline the buying and selling of goods, services and securities. In most cases, an order management system provides a framework where a business inputs its own specialized information. In addition, most of these systems are modular; users only need to purchase the portions they need. These two factors will generally make an order management system very customizable.

These systems are common in nearly every type of business. Companies that manufacture or sell goods use them to track the materials coming in to the business and the sales going out. Service-based industries often have an order management system that keeps track of invoicing so small additions or subtractions to the bill are less likely to be lost. In the financial world, these programs often track the buying and selling of securities, making sure that sales are both instant and properly tracked for governmental reasons.

The majority of these systems are customized for the individual client. After a company purchases the system, it customizes it specifically to the business. This means adding in its own part numbers, sales totals, customer database and other items specific to its business. When it's done, the database of information is usually available throughout the system.

In addition to being customized for a specific client, most of these systems are made of individual modules. These modules cover different areas of a business like sales, invoicing or marketing. This allows a customer to buy specifically what he needs for his business. If his business expands at a later time, he can buy more modules to cover his new areas.

With the exception of the cost and initial training, these programs have very few drawbacks. They streamline business practices and automate many areas of sales, marketing and shipping. They truly have only one flaw; they are not compatible with one another. This means that a company using an order management system has a very difficult time switching to a new system. The company often needs to start over completely, as none of its former information is compatible with the new system.

Consumers encounter these systems more every year. When a person purchases an item online or uses a self-checkout at the grocery store, that is an order management system. Originally, these programs were designed for a more behind-the-scenes position, but modern business practices have brought them out. This has resulted in more streamlined interfaces and new modules that specifically address things like customer ratings and comments.

5.2.5 WCS (Warehouse Control System)

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A warehouse control system (WCS) is a layer of software that sits between a host system—either an ERP or WMS—and automated materials handling equipment. It controls and synchronizes the automated storage, picking and transportation solutions. The WCS determines the best way to route materials through the automated systems and provides real-time control to re-optimize orders as business conditions change. It also updates the host system, providing transparency into warehouse activities. If something goes wrong, the WCS can reroute the product or send an error message to the WMS in sub-second response time, explains Chad Collins, Vice-President of marketing and strategy for HighJump.

The primary functions of a WCS include:

- Interfacing to an upper level host system/Warehouse management system (WMS) and exchanging information required to manage the daily operations of the distribution center.
- Allocating work to the various material handling sub-systems to balance system activity to complete the requested workload.
- Providing real-time directives to operators and material handling equipment controllers to accomplish the order fulfillment and product routing requirements.
- Dynamically, assign cartons to divert locations based on defined sortation algorithms or based on routing/order information received from the Host (if applicable).
- Generate result data files for reporting and/or upload by the Host system.
- Operational screens (graphical user interface) and functions to facilitate efficient control and management of the distribution warehouse.
- Collect statistical data on the operational performance of the system to enable operations personnel to maintain the equipment in peak performance.

Each major function is designed to work as part of an integrated process to effectively link the host systems with the lower level control system, while relieving the Host from the real-time requirements such as operator screens and lower level equipment control interfaces.

Key capabilities of WCS systems should include relieving a customer host computer of managing a real-time material handling automation interface, maximizing system throughput and performance while utilizing the most efficient methods for pallet, case and item routing.

You may have read a recent story published by Modern Materials Handling Magazine that outlines how one of the industries most advanced Warehouse Control Systems helped Oriental Trading Company improve productivity, reduce labour costs and maximize order accuracy levels.

This WCS system is PC-based and are designed to handle all the physical aspects of a warehouse or distribution center, including material handling equipment control,

stock location mapping, inter-location movement control, inter-zone routing, allocation of stock to dispatches, order management and dock door interface control, all within unlimited operator interface. Material handling equipment control includes control of cranes, trucks, conveyors, carousels, sorters and other equipment using network, radio or infrared communication links.

The WCS picking capabilities include support for various picking models, such as paper pick lists, RF terminals, goods-to-man picking robots, voice controlled and pick-to-light; support for fixed and dynamically assigned picking locations; automatic replenishment based on minimum level or future demand; picked container building to defined rules of height; weight and stock segregation; consolidation of pick requirements into waves' pick walk minimization; and configurable workload balancing.

This WCS operates as a self-maintained unit requiring no user interaction for file and system maintenance, providing elaborate statistical and diagnostic graphics and reports for maximum systems uptime and recommending equipment maintenance based on run-time and/or maintenance schedules.

Benefits

- Maximizes Throughput and Performance
- Optimizes Material Flow
- Order Management
- Diagnostic and Statistical Graphics and reports
- Sophisticated Productivity Tracking and planning
- Real Time Interface to Material Handling Equipment
- Universal Sub-System Support
- Relieves WMS/ERP of Real Time Decisions
- One Port Real Time Connectivity to ERP and WMS
- RFID Compatible
- Easy to Use Intuitive GUI/Windows Interface

5.2.6 Network Optimization

Optimization is maximization of benefits subject to constraints or minimization of costs subject to constraints. The five sub-systems of supply-chain logistics system can be individually maximized for benefits or minimized for costs. However, for collective result, maximization/minimization goals need to be mended in favour of optimization. Of course software packages are available guiding the marketer with alternatives giving the pay-offs. Just choose and pick.

Supply chain optimization and network design planning solutions are like having a window into the future. These tools can model and simulate complex supply chains so that decision-makers can decide the optimal way to source materials, locate manufacturing plants and distribution centres, and set up transportation lanes. Once

the network design is in place, the system can run what-if scenarios to determine how the supply chain will perform when business changes occur. It then looks for opportunities to optimize the current network. Every step in the enterprise has the same goals—low cost, high quality and visibility, says SAP's Kirker. Success is achieved when the final goals in each step are met, and software enables that achievement.

Employing network optimization solutions can help:

- Reduce application latency to remote end-users
- Create multiple pathways to ensure application availability
- Centralize the network environment
- Decrease operating and management costs
- Maximize bandwidth utilization
- Postpone the need to upgrade WAN bandwidth
- Improve disaster recovery position by speeding backup and data replication over the WAN

While implementing networking solutions, it is important to:

- Identify which applications are critical
- Prioritize applications requiring instant access
- Determine which applications experience excessive latency issues
- Investigate which applications are accessed multiple times throughout the day, causing duplicate traffic.

5.3 SOFTWARE EVALUATION AND SELECTION

The supply chain software market is large, with products that look very similar from one provider to the next and sometimes make very similar promises. Even just figuring out where to begin in the Supply Chain Software Evaluation and Selection Process can be a huge challenge.

The following are some common steps to be used for software evaluation and selection:

- **Build a Team:** Depending on the size of your company, you'll want to put together a team of individuals that represent all of the different parties (stakeholders) who will use the software, and thus have a vested interest in the process. For example, if there are multiple facilities in your organization, you may want to reach out to all the General Managers and ask each of them to select a resource for the team (it can be helpful to give them a few characteristics you're looking for such as responsibility level, experience, etc.—this will help ensure you build the best team possible and give your project a greater chance for success).

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- **Conduct a Current State Analysis:** It's helpful to build some kind of analysis of what is commonly called the "current state." Basically this is information on your company as it stands today, i.e., number of users at each level, square footage, inbound and outbound detail, etc.
- **Create a List of Functional Requirements:** It's a good idea to involve the team you've built/are building—they should provide you with functional requirements of what exactly this system needs to do. The list will probably need some level of compilation by you or a group of team members, to merge duplicates and to finalize remaining requirements. After that, there are a number of things you can do such as categorizing and giving the different categories a weight to make sure you get your most important requirements met. This final document will help when you begin soliciting the different software vendors for information – usually the process involves sending each vendor a request for information (RFI) or request for proposal (RFP). There really is no difference between these although it is commonly assumed that RFIs indicate that a company is not as close to purchasing software as a company that is requesting a proposal.
- **Schedule Software Demonstrations:** Once you get the responses back from the vendors, it's a good idea to see some demonstrations of the software in action. These are going to differ from one to the next, so you'll want to provide a guide to help the vendors understand what you'd like to see not only so you get as close of an apple-to-apple kind of comparison as you can get, but also to make sure that the software can meet your top level functional requirements, i.e., can the product(s) do what you need them to do? As you'll see once you go through this stage, it can be difficult to keep the products straight, particularly if you've not kept the vendor list to 3 or less. Some pitfalls here are caused by the obvious fact that all software vendors want you to buy their software. Everyone wants and needs to make a living, right? So, you may experience all of your selected vendors telling you they can meet all of your requirements. When that happens, it makes the job of selecting one even more difficult. For example, integration is generally pretty high on the list for most companies—you need to know that what you're buying will work/talk to/integrate with everything else you already have. You may hear that each vendor offers standard integration—but what does that mean? If you don't know where to ask the deeper questions, you may end up selecting a software package that will need major additional effort (and money) to work with your existing systems. Like buying a refrigerator when your main requirement outside of price is that it makes A LOT of ice. When you get to the appliance store, however, the sales representative shows you the bells and whistles of how your microwave and stove integrate with a given refrigerator, how well they match,

and so on and so on. They don't bother to start you out with the models having high volume ice makers or, suggesting that you might be better off buying an ice maker given how much ice you go through in a day.

- **Appoint an Objective Reviewer:** Regardless of the type of experience on your team, some people may develop favourites. You or someone you select needs to be in charge of objectively reviewing the software on how well it meets your top requirements across the board, not how well it does one individual task (unless of course that's absolutely the most critical task your organization does in a day). This is also where weighting particular functionality is important and will help you arrive at the best decision.
- **Examine the True Cost of Purchase:** Now that the demos are done, the notes are taken and features are compared, you need to examine what the true cost of what actually owning these different products might mean. The costs range from the obvious, like license fees and maintenance costs to items you may not consider like training, custom integration, enhancements, software installation and hardware setup and configuration.

5.4 LOGISTICS NETWORK OPTIMIZATION

Every supplier, manufacturer, distributor and retailer participates in multiple supply chains that are becoming increasingly complex as global sourcing and selling continue to accelerate within the marketplace. Today, many companies have distribution networks that are no longer cost-effective due to fundamental changes that have taken place over the past two decades. Logistics network optimization studies help companies to determine the optimal production and/or distribution infrastructure to manage customer service level objectives both today and into the future. The goal is to support the company's defined business strategy and customer service level requirements with an optimized balance of minimized operating expenses and working capital requirements.

The evolution of logistics and Supply Chain Management (SCM) in the 1990s can be traced back to "physical distribution management" in the 1970s when there was no coordination among the various functions of an organization, and each was committed to attain its own goal. This myopic approach then transformed into "integrated logistics management" in the 1980s that called for the integration of various functions to achieve a system-wide objective. Supply Chain Management (SCM) further widens this scope by including the suppliers and customers into the organizational fold, and coordinating the flow of materials and information from the procurement of raw materials to the consumption of finished goods.

The objectives of Supply Chain Management (SCM) are to eliminate redundancies, and reduce cycle time and inventory so as to provide better customer service at lower

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cost. The focus has shifted from the "share of the market" paradigm to the "share of the customer paradigm, wherein the goal is to create "customer value" leading to increased corporate profitability, shareholder value, and sustained competitive advantage in the long run.

Logistics involves getting, in the right way, the right product, in the right quantity and right quality, in the right place at the right time, for the right customer at the right cost. The logistic network consists of the suppliers, the retailer and the users. The purpose of an integrated logistic network in a supply chain is to fulfill customer orders through providing place utility to deliver products and services to end users. The place utility is achieved by managing a number of key functions of a supply chain. The functions include:

- Demand management
- Inventory management
- Transportation
- Warehousing
- Order processing
- Information Management

Logistics is a key enabler of supply chain collaboration. Improving performance in this field allows supply chains to increase their efficiency significantly and help to create innovations in different areas. In this context, an important task is to find structures and approaches which enable all types of performance management in logistics and supply chains for a better fulfillment of customer needs.

Supply chain management is a cross-function approach including managing the movement of raw materials into an organization, certain aspects of the internal processing of materials into finished goods, and the movement of finished goods out of the organization and toward the end-consumer. As organizations strive to focus on core competencies and becoming more flexible, they reduce their ownership of raw materials sources and distribution channels. These functions are increasingly being outsourced to other entities that can perform the activities better or more cost effectively. The effect is to increase the number of organizations involved in satisfying customer demand, while reducing management control of daily logistics operations. Less control and more supply chain partners led to the creation of supply chain management concepts. The purpose of supply chain management is to improve trust and collaboration among supply chain partners, thus improving inventory visibility and the velocity of inventory movement. There are four major decision areas in supply chain management:

- Location
- Production
- Inventory
- Transportation (distribution)

And there are both strategic and operational elements in each of these decision areas.

Case Study on Business Systems Planning And Implementation: McDonald's Corporation

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McDonald's has worked hard to be more than a restaurant chain. It has become a marketing icon and is part of the routines of millions of people. Its success is so far reaching that it has developed its own culture and identity. It has become a symbol of the success and desirability of American popular culture.

McDonald's operates more than 24,000 restaurants in 114 countries. It has a 21 percent share of the very competitive US fast food industry. Overseas restaurants now account for half of the company's profits. McDonald's plans to open 10,000 new restaurants by the year 2005. It has been the forerunner in the recent industry trend of co-branding and satellite locations.



What has set McDonald's apart from the average hamburger restaurant is its ability to recognise customers' needs and desires. It seems customers want fast, friendly service in a clean and orderly environment. McDonald's sees this as its main objective and addresses it as its primary business function. One of McDonald's most important critical success factors has been the ability to apply manufacturing functions to service activities. McDonald's has used this approval to bridge the dichotomy between service and manufacturing.

The McDonald brothers identified simplicity as being important. Dick McDonald explained,

> *We said let's get rid of it all. Out went dishes, glasses and silverware.*
>
> *Out went service, the dishwashers and the long menu.*
>
> *We decided to serve just hamburgers, drinks, and French fries on paper plates.*
>
> *Everything prepared in advance, everything uniform.*
>
> *All geared to heavy volume in a short amount of time.*

This simple system was felt to be ideal for franchising as it was ideal to duplicate. A strong system of operations was conceived. The system consists of four distinct parts:

1. Develop supplier relationships.
2. Train and monitor franchises.

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3. Improve products.
4. Improve equipment through technology.

Networks are particularly important to McDonald's because they provide a mechanism to manage the franchises spread over large geographic areas. Networks reinforce the centralisation of power by enabling headquarters to communicate with the franchises. This ensures standardization and quality control through the analysis of inventories and franchises. Networks achieve these functions at a comparatively low cost and without the time constraints of more mainframe-based communications.

Both McDonald's and Burger King are testing smart card technology in selected markets. The cash value of each card is stored on a computer chip or a magnetic strip on the back of each card. Value can be added to the card through machines that accept cash or through ATM-like machines that add value by transferring funds out of a customer's bank account. Customers can use the cards, instead of cash to make their food purchases. Corporate goals for smart card implementation include cost savings in relation to money handling, reduced shrinkage, and increased loyalty through incentives and premiums. Smart cards eliminate the need for merchants to communicate with banks for the authorisation of purchases.

McDonald's is testing this technology at 870 restaurants across Germany. McDonald's Deutschland continues to use smart card terminals in 55 stores. During the first 10 weeks of the trial, 30 thousand transactions were conducted, using Hewlett-Packard Co.'s VeriFone unit, which provides the terminals. McDonald's is hoping to lead a trend toward the wide-scale acceptance of smart cards in Germany. Technologically, smart cards were designed to function in place of credit cards in the fast-food environment. Historically, credit card transactions were too slow. Their associated costs were too high in the face of small margins. Smart cards are an important step in resolving these issues. They enable restaurants to leverage sales and enhance the ease of credit card use. Authorization and settlement technology are rapidly improving. The costs of network connectivity are decreasing.

McDonald's first announced a web presence in 1994 with McDonald's interactive, an area in NBC Online on America Online. In 1995, the company developed and implemented a web site called McFamily (www.mcdonalds.com). It is aimed at families, perceived by McDonald's as its most important target market. The site features "seasonal ideas for fun family activities such as block parties, travel games, and household safety information." The Auditorium sponsors monthly guest speakers, including celebrities and parenting experts, and a Hey Kids area houses a gallery with McArt submitted by children with downloadable games and contests. The goal of all these web pages is to enhance the brand image that McDonald's is for families. McFamily includes a section on "helping others".

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This section features information on Ronald McDonald House and other related children's charities. This section also features information on McDonald's efforts to preserve the environment.

The McDonald's web site cannot be used to sell food. However, it can capture revenue through sales of merchandise related to McDonald's sponsorships. The "McStuff for You" section offers gear from McDonald's racing teams and the Olympic Games. The web site is used to collect customer information and profiles through on-line surveys.

Decision makers at McDonald's Corporation realise that customer preference is paramount. The chain is implementing a restaurant-level planning system, dubbed "Made For You." This enables each restaurant to eliminate its inventory of foods prepared in advance. Instead, workers make sandwiches based on actual demand without sacrificing any of the efficiency.

About 800 McDonald's restaurants use the system, which consist of PC-based cash registers running in-house software. Orders are routed to monitors at different food preparation tables to balance the workload among employees. In McDonald's restaurants without the new system, workers must anticipate demand for each type of sandwich in advance and place them in bins. When a customer wants a sandwich that is not ready-made or one with a different topping, the person at the register shouts out the order and workers move out of the assembly line for the special request. This slows the process and extends the customer's wait.

McDonald's introduced the new system in March at a meeting for its franchisees. The company is encouraging its 12,400 US restaurants to incorporate the system, but the actual decision is left to each franchise. The technology eases the workload and could add up to a percentage point to the company's profit margin because it enables it to sell more food faster.

Walmart and McDonald's have joined together to share retail space. These two companies have been partners since 1993, with over 800 restaurants in Wal-Mart stores around the US. Now, McDonald's has taken this one step further. It actually uses Walmart clerks and registers to sell McDonald's food. In several test locations, when Walmart shoppers pull their carts up to the checkout, there is a mat on the counter displaying McDonald's products, much like what you would see at one of the restaurants. Each product, from hamburgers to Happy Meals, has a code number that the clerk scans into the Walmart system while ringing up the customer's purchases. The orders are automatically relayed from the register to the kitchen using software jointly developed by McDonald's and Walmart. The food is brought to the customers as they leave the store. Since the food appears on Walmart's registers and receipts, customers can pay for it with a single credit card purchase. At the end of the day, the companies balance McDonald's portion of the proceeds. Individual organizations are starting to use one another's environments and skills to reach as many potential customers as

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possible. To better manage its inventory, McDonald's has implemented supply-chain software that enables better management of inventory by sharing demand and supply information among its restaurants, suppliers and distributors.

McDonald's appears to be at a crossroad. The company can continue on its traditional (and very successful) path of consistency and quality through standardization, or it can alter the basic strategies by allowing franchisee autonomy and continuing to provide a variety of offerings and service. As a company noted for standardization, emphasis on flexibility is quite a feat. This new outlook includes granting more freedom for franchisees to experiment with food and marketing, test new venues, such as satellite locations and co-branding, and develop new menu items.

These changes are innovative and risky. Current management is not considering minor adjustments. Experimenting with the much copied system of operations is a gamble. The system is a precisely organized machine; by introducing flexibility, the machine is in danger of becoming mired down with complexity. The danger lies in straying too far from what McDonald's has done in the past.

(Source: Adapted and condensed from Anderson, D. 2000, Managing Information Systems, Prentice Hall, NJ)

Source: *Scribd.com*

5.5 TRANSPORTATION ROUTING, MILEAGE AND MAPPING SOFTWARE

Transportation services play a important role in seamless supply chain operations, moving in-bound materials from supply sites to manufacturing facilities, repositioning inventory among different plants and distribution centres and delivering finished products to customers. Organizations are spending on software and new technologies for seamless integration of the supply chain, to increase overall supply chain profitability. Companies are turning to Geographic Information Systems (GIS) as a key component in their supply chain software. Mapping software provides an easy way for users to visualize data. "It gets the point across a little easier than raw data".

Geographical Information Systems (GIS) offer a valuable supply chain risk management tool. GIS analysis provides the opportunity to represent this information visually. GIS analysis allows the decision maker to visualize a complete company profile to include manufacturer, office and warehouse locations, and employee, client, customers, distributor and supplier locations. Relationships can be drawn between these locations, allowing for the company's supply chain to be identified and monitored. Various types of risks—either man-made or natural threats can be mapped, layered and presented. Historical risk trends such as earthquake, floods, strikes etc. can be over layered against the network to additionally determine an

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operating risk environment. GIS helps businesses to answer supply chain management questions like

- What is my drive time from the central facility?
- How long will it take to reach delivery locations?
- Which customer should be in separate service areas?
- How can I track goods through my supply chain?

Further GIS helps businesses answer transportation questions like

- What is the best route for the delivery trucks?
- What are the alternative routes in case of problems on one route?

Route analysis is the operation which aims at minimizing the cost of travel involved in transporting goods from one location to another whether in terms of trips required or time or distance or a combination of these.

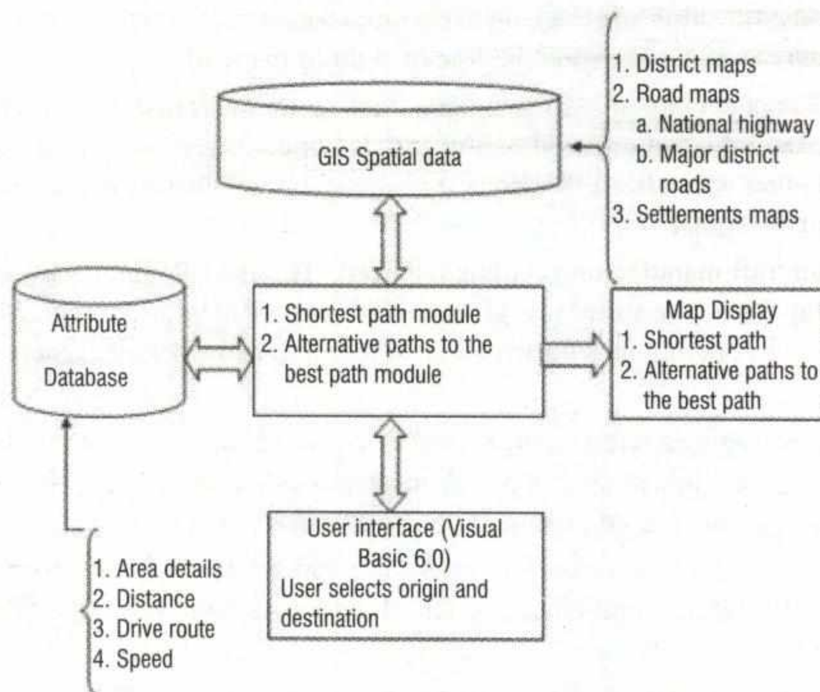


Fig. 5.1: SDSS Model for Route Generation

Presenting supply chain performance data in the form of a spreadsheet neglects the real world influence of geography on transportation. For example, one retailer knew the nodes of the supply chain well, but when the routes between the manufacturer and distribution warehouse were actually mapped, it was found that every shipment ended up crossing the same bridge. The entire company's operations would be negatively impacted if this particular bridge was closed. Thus when supply chain performances are mapped, problems are immediately visible and alternatives, such as rerouting to another route or form another facility are much easier to explore. Proper routing can help the managers achieve their competitive priority and increase the overall supply chain profitability. GIS images are not just pictures on the map for a manager, they

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are spatial variables. Integration of the spatial data along with the attribute data helps manager do "what-if analysis" and actually see the implication / impact of the result on the operating area. Thus GIS tool needs to be customized to suit a manager's requirements and help him answer the above questions for operating efficiency. A SDSS for route analysis and route generation is developed using Visual Basic as the front-end tool (User Interface) and MapInfo as the back-end tool. The sample area considered for the route generation is Dharwad district of Karnataka State.

5.6 RFID (RADIO FREQUENCY IDENTIFICATION) TECHNOLOGY

Radio-frequency Identification (RFID) is the use of an object (typically referred to as an RFID tag) applied to or incorporated into a product, animal, or person for the purpose of identification and tracking using radio waves. Some tags can be read from several meters away and beyond the line of sight of the reader.

Most RFID tags contain at least two parts. One is an integrated circuit for storing and processing information, modulating and demodulating a radio-frequency (RF) signal, and other specialized functions. The second is an antenna for receiving and transmitting the signal.

European aircraft manufacturer Airbus received 'The Best RFID implementation' award in May 2008. The award was given for the successful implementation of RFID technology in its operations with an objective to improve the company's operational efficiency.

- Airbus, a leading aircraft manufacturer in the world, had a complex supply chain including multiple assembly plants and thousands of suppliers. The company followed a principle of continual improvement of its operations.
- Airbus' efforts to improve its operating efficiency included projects like Sup@irWorld and implementing RFID across its own as well its suppliers' operations.
- Airbus started using RFID in its operations way back in 1997. It applied this technology in its tool loan business where it used to lend certain tools to its customers that were required for maintenance of the aircraft.

There are generally three types of RFID tags: active RFID tags, which contain a battery and can transmit signals autonomously, passive RFID tags, which have no battery and require an external source to provoke signal transmission, and Battery Assisted Passive (BAP) which require an external source to wake up but have significant higher forward link capability providing great read range.

RFID systems can be used just about anywhere, from clothing tags to missiles to pet tags to food—anywhere that a unique identification system is needed. The tag can carry information as simple as a pet owners name and address or the cleaning instruction on a sweater to as complex as instructions on how to assemble a car.

Check Your Progress

1. What do you mean by supply chain management?
2. Define WMS.
3. What is Transportation Management System (TMS)?

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Some auto manufacturers use RFID systems to move cars through an assembly line. At each successive stage of production, the RFID tag tells the computers what the next step of automated assembly is.

RFID is in use all around us. If you have ever chipped your pet with an ID tag, used EZPass through a toll booth, or paid for gas using SpeedPass, you've used RFID. In addition, RFID is increasingly used with biometric technologies for security.

Unlike ubiquitous UPC barcode technology, RFID technology does not require contact or line of sight for communication. RFID data can be read through the human body, clothing and non-metallic materials.

One of the key differences between RFID and barcode technology is RFID eliminates the need for line-of-sight reading that barcoding depends on. Also, RFID scanning can be done at greater distances than barcode scanning. High frequency RFID systems (850 MHz to 950 MHz and 2.4 GHz to 2.5 GHz) offer transmission ranges of more than 90 feet, although wavelengths in the 2.4 GHz range are absorbed by water (the human body) and therefore has limitations.

RFID Components

- A basic RFID system consists of three components:
- An antenna or coil
- A transceiver (with decoder)
- A transponder (RF tag) electronically programmed with unique information
- The antenna emits radio signals to activate the tag and to read and write data to it.
- The reader emits radio waves in ranges of anywhere from one inch to 100 feet or more, depending upon its power output and the radio frequency used. When an RFID tag passes through the electromagnetic zone, it detects the reader's activation signal.

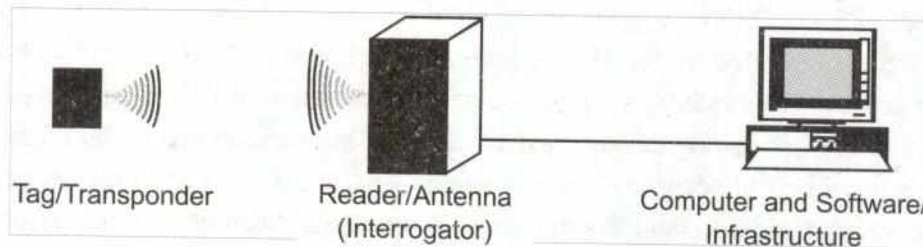


Fig. 5.2: RFID components

- The reader decodes the data encoded in the tag's integrated circuit (silicon chip) and the data is passed to the host computer for processing.

The purpose of an RFID system is to enable data to be transmitted by a portable device, called a tag, which is read by an RFID reader and processed according to the needs of a particular application. The data transmitted by the tag may provide identification or location information, or specifics about the product tagged, such as price, colour, date of purchase, etc. RFID technology has been used by thousands

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of companies for a decade or more. RFID quickly gained attention because of its ability to track moving objects. As the technology is refined, more pervasive—and invasive—uses for RFID tags are in the works.

A typical RFID tag consists of a microchip attached to a radio antenna mounted on a substrate. The chip can store as much as 2 kilobytes of data.

To retrieve the data stored on an RFID tag, you need a reader. A typical reader is a device that has one or more antennas that emit radio waves and receive signals back from the tag. The reader then passes the information in digital form to a computer system.

Compared to traditional barcode-based systems, RFID-based data-capture systems have many advantages.

- RFID tags: Either active (with on-board battery) or passive
- RFID readers: To activate and read information on the tags
- Communication technologies: To move captured information
- Information processing systems: To store, compile, parse, interpret, and analyze transmitted information.

5.7 INTEGRATED GPS, WIRELESS DATA AND MICRO-CHIP TECHNOLOGY SYSTEM

GPS stands for the Global Positioning System. It refers to a system of satellites and receivers that allow people and devices to pinpoint their precise location on the Earth. The heart of the system relies on 24 satellites that orbit the planet twice per day. Devices that are equipped with GPS equipment receive transmissions from at least a few of the satellites and are able to discern very precise positioning data.

The first GPS satellite was launched in 1974 and the 24th was launched in 1994. The system is operated by the United States Department of Defense and its use is free for anyone. New satellites are periodically launched to replace ageing ones. As the technology has improved, the cost of devices that include this technology has plummeted while the accuracy has increased. Small portable GPS receivers have become very affordable, and the accuracy is amazing. Accuracy varies based on various factors, but it can be as good as a few yards (metres). Land-based supplemental devices can be used to improve accuracy if higher precision is required.

The application of the GPS is very broad, and as the prices come down the number of uses is increasing. Portable devices are used by fisherman and hikers to help them navigate in the wild. Many new cars are being equipped with GPS systems to help drivers with navigation. The military uses it to guide cruise missiles to pre-specified targets. It's even used for tracking and hunting hobbies, like geocaching.

How the Global Positioning System Works

The basis of the GPS is a constellation of satellites that are continuously orbiting the earth. These satellites, which are equipped with atomic clocks, transmit radio signals that contain their exact location, time, and other information. The radio signals from the satellites, which are monitored and corrected by control stations, are picked up by the GPS receiver. A GPS receiver needs only three satellites to plot a rough, 2D position, which will not be very accurate. Ideally, four or more satellites are needed to plot a 3D position, which is much more accurate.

Three Segments of GPS

The three segments of GPS are the space, control, and user (Figure 5.3).

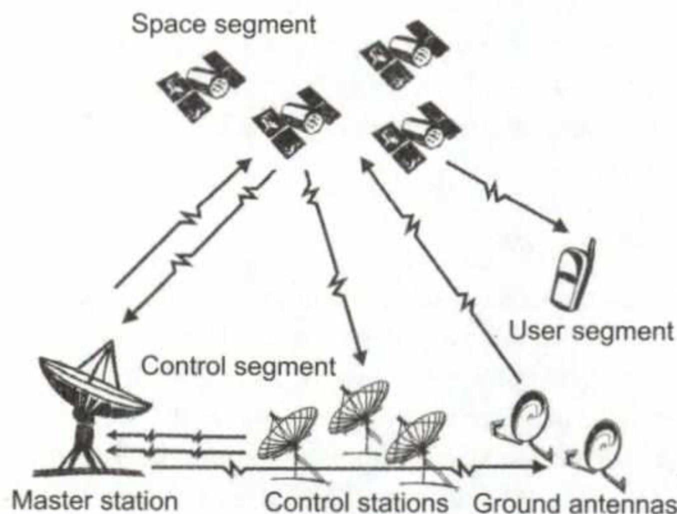


Fig. 5.3: Three segments of GPS

Space Segment—Satellites orbiting the earth

The space segment consists of 29 satellites circling the earth every 12 hours at 12,000 miles in altitude. This high altitude allows the signals to cover a greater area. The satellites are arranged in their orbits so a GPS receiver on earth can receive a signal from at least four satellites at any given time. Each satellite contains several atomic clocks. The satellites transmit low radio signals with a unique code on different frequencies, allowing the GPS receiver to identify the signals. The main purpose of these coded signals is to allow the GPS receiver to calculate travel time of the radio signal from the satellite to the receiver. The travel time multiplied by the speed of light equals the distance from the satellite to the GPS receiver.

Control Segment—The control and monitoring stations

The control segment tracks the satellites and then provides them with corrected orbital and time information. The control segment consists of five unmanned monitor stations

and one Master Control Station. The five unmanned stations monitor GPS satellite signals and then send that information to the Master Control Station where anomalies are corrected and sent back to the GPS satellites through ground antennas.

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User Segment—The GPS receivers owned by civilians and military

The user segment consists of the users and their GPS receivers. The number of simultaneous users is limitless.

How GPS Determines a Position

The GPS receiver uses the following information to determine a position.

Precise location of satellites

When a GPS receiver is first turned on, it downloads orbit information from all the satellites called an almanac. This process, the first time, can take as long as 12 minutes; but once this information is downloaded it is stored in the receiver's memory for future use.

Distance from each satellite

The GPS receiver calculates the distance from each satellite to the receiver by using the distance formula: distance = velocity × time. The receiver already knows the velocity, which is the speed of a radio wave or 186,000 miles per second (the speed of light). To determine the time part of the formula, the receiver times how long it takes for a signal from the satellite to arrive at the receiver. The GPS receiver multiplies the velocity of the transmitted signal by the time it takes the signal to reach the receiver to determine distance.

Triangulation to determine position

The receiver determines position by using triangulation. When it receives signals from at least three satellites the receiver should be able to calculate its approximate position (a 2D position). The receiver needs at least four or more satellites to calculate a more accurate 3D position. The position can be reported in latitude/longitude, UTM, or other coordinate system.

Wireless Data System

A wide variety of different wireless data technologies exist, some in direct competition with one another, others designed for specific applications. Wireless technologies can be evaluated by a variety of different metrics of which some are described in this entry.

Standards can be grouped as follows in increasing range order:

- Personal Area Network (PAN) systems are intended for short range communication between devices typically controlled by a single person. Some

examples include wireless headsets for mobile phones or wireless heart rate sensors communicating with a wrist watch. Some of these technologies include standards such as ANT UWB, Bluetooth, ZigBee, and Wireless USB

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- For wider area communications, Wireless Local Area Network (WLAN) is used. WLANs are often known by their commercial product name Wi-Fi. These systems are used to provide wireless access to other systems on the local network such as other computers, shared printers, and other such devices or even the Internet. Typically a WLAN offers much better speeds and delays within the local network than an average consumer's Internet access. Older systems that provide WLAN functionality include DECT and HIPERLAN. These however are no longer in widespread use. One typical characteristic of WLANs is that they are mostly very local, without the capability of seamless movement from one network to another.
- Cellular networks or WAN are designed for city-wide/national/global coverage areas and seamless mobility from one access point (often defined as a Base Station) to another allowing seamless coverage for very wide areas. Cellular network technologies are often split into 2nd generation 2G, 3G and 4G networks. Originally 2G networks were voice centric or even voice only digital cellular systems (as opposed to the analog 1G networks). Typical 2G standards include GSM and IS-95 with extensions via GPRS, EDGE and 1xRTT, providing Internet access to users of originally voice-centric 2G networks. Both EDGE and 1xRTT are 3G standards, as defined by the ITU, but are usually marketed as 2.9G due to their comparatively low speeds and high delays when compared to true 3G technologies.
- True 3G systems such as EV-DO, W-CDMA (including HSPA) provide combined circuit switched and packet switched data and voice services from the outset, usually at far better data rates than 2G networks with their extensions. All of these services can be used to provide combined mobile voice access and Internet access at remote locations.
- 4G networks provide even higher bitrates and many architectural improvements, which are not necessarily visible to the consumer. The current 4G systems that are deployed widely are HSPA+, WIMAX and LTE. The latter two are pure packet based networks without traditional voice circuit capabilities. These networks provide voice services via VoIP.

Some systems are designed for point-to-point line-of-sight communications, once two such nodes get too far apart they can no longer communicate. Other systems are designed to form a wireless mesh network using one of a variety of routing protocols. In a mesh network, when nodes get too far apart to communicate directly, they can still communicate indirectly through intermediate nodes.

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Micro-Chip Technology

A microchip is a small semiconductor used to relay information via specific electrical characteristics. In some cases, the term can be used interchangeably with integrated circuit. The microchip is at the heart of many electronics, including computers, cell phones and even microwave ovens.

The first microchip is credited jointly to Robert Noyce and Jack Kilby in 1958. Though both were working for different companies and coming at the invention from slightly different angles, the two companies decided both had part of the overall answer and decided to cross license their inventions to come up with one unified piece of technology. After being demonstrated in 1958, it was first available commercially in 1961.

The technology was basic compared to modern standards. The first chip held one transistor, three resistors and one capacitor; modern ones commonly hold millions of transistors in a space smaller than a U.S. penny. The increase in smaller and smaller semiconductor chips has led to numerous other benefits. Beyond being used in electronic gadgets, they can be inserted into biological organisms as well.

The microchip has even been credited as an invention which is used to save lives. Pacemakers use them in order to keep their timing so that they can run hearts efficiently. Mechanical hearts, themselves, use pacemakers to fully take over the function of a biological heart.

As the cost of biologically-centric microchip applications has come down, the number of uses has increased. For example, many pet owners now get them inserted in their animals; if the pet is lost and taken to an animal shelter or veterinary clinic, one of the first things workers will usually do is scan the animal to see if it has a microchip. The chip will reveal the owner's name and contact information.

Likewise, some people have had microchips inserted into themselves. If they are ever incapacitated and need to be taken to the hospital, they are already carrying their full medical history inside their body. These can be easily scanned and the information downloaded for medical professionals to make the most appropriate decisions possible. In the future, it is envisioned people may have these devices implanted that will take care of many of the everyday tasks. Cars may start as the owner approaches, or doors to homes may unlock only for those who have chips programmed with the key.

5.8 TRACKING TECHNOLOGY

Location tracking is not one, single technology. Rather, it is the convergence of several technologies that can be merged to create systems that track inventory, livestock or vehicle fleets. Similar systems can be created to deliver location-based services to wireless devices.

Current technologies being used to create location-tracking and location-based systems include:

- **Geographic Information Systems (GIS):** For large-scale location-tracking systems, it is necessary to capture and store geographic information. Geographic information systems can capture, store, analyze and report geographic information.
- **Global Positioning System (GPS):** A constellation of 27 Earth-orbiting satellites (24 in operation and three extras in case one fails). A GPS receiver, like the one in your mobile phone, can locate four or more of these satellites, figure out the distance to each, and deduce your location through trilateration. For trilateration to work, it must have a clear line of sight to these four or more satellites. GPS is ideal for outdoor positioning, such as surveying, farming, transportation or military use (for which it was originally designed).
- **Radio Frequency Identification (RFID):** Small, battery-less microchips that can be attached to consumer goods, cattle, vehicles and other objects to track their movements. RFID tags are passive and only transmit data if prompted by a reader. The reader transmits radio waves that activate the RFID tag. The tag then transmits information via a pre-determined radio frequency. This information is captured and transmitted to a central database. Among possible uses for RFID tags are a replacement for traditional UPC bar codes.
- **Wireless Local Area Network (WLAN):** Network of devices that connect via radio frequency, such as 802.11b. These devices pass data over radio waves and provide users with a network with a range of 70 to 300 feet (21.3 to 91.4 metres).

Any location tracking or location-based service system will use one or a combination of these technologies. The system requires that a node or tag be placed on the object, animal or person being tracked. For example, the GPS receiver in a cell phone or an RFID tag on a DVD can be used to track those devices with a detection system such as GPS satellites or RFID receivers.

Case Study of China Telecom: ERP Implementation

China Telecom Corporation, the world's largest operator of fixed-line communications, was formed when the state owned China Telecommunications Corporation reorganized. China Telecom employs 350,000 workers throughout China, who attend to the company's operations in domestic and international fixed-line networks; fixed-line voice, data, and information services; and the settlement of international telecommunications accounts. The company has maintained steady growth despite heavy competition from mobile phone services.

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Check Your Progress

Fill in the Blanks

4. .... can be used just about anywhere, from clothing tags to missiles to pet tags to food – anywhere that a unique identification system is needed.
5. GPS stands for the................... .
6. The .... tracks the satellites and then provides them with corrected orbital and time information.
7. A .... is a small semiconductor used to relay information via specific electrical characteristics. In some cases, the term can be used interchangeably with integrated circuit.

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In 2002, the company became a public company listed on the New York Stock Exchange (NYSE). That same year, the United States (US) granted China Telecom a license to provide international telephone and Internet service between the countries. These steps were part of a transition from a traditional state-run enterprise to a modern enterprise based on larger profits and a wider customer base. However, to succeed as an international telecommunications powerhouse, China Telecom had to solve several problems. First, the company required a state-of-the-art IT infrastructure. Second, it needed to comply with international reporting regulations for publicly traded companies. Third, it needed to integrate all of its business functions and enable real-time management. Together, these initiatives would increase organizational efficiency, tighten control over internal operations, and promote better collaboration among different departments.

For a solution, China Telecom decided to invest in Enterprise Resource Planning (ERP) software. The company could have written its own software to link its different business functions and organizational units, but this would have been very costly and time-consuming. It was much easier to use an ERP software package from a recognized vendor. The software is based on best-practice business processes, which would help the company meet international reporting requirements.

According to Shiping Liang, director of the application division at China Telecom, the company chose MySAP ERP from SAP as the backbone system because of its powerful functionality and integration capabilities. Among the core business processes that MySAP ERP supports for China Telecom are engineering project management, finance, controlling, procurement, and human capital management. SAP's ERP financials module supports local currencies, markets, and languages, including Chinese. The SAP human capital management module automates human resources processes and integrates them across global operations. The software meets regulatory requirements for more than 50 countries.

To promote data integration, China Telecom also adopted two components of SAP Netweaver: SAP Business Intelligence (SAP BI) and SAP Enterprise Portal (SAP EP). SAP Netweaver uses XML and Web services to link the enterprise system with a company's existing systems to create new cross-functional applications. SAP Enterprise Portal provides a single point of access to data from multiple systems, integrating the data in a single view for the user. SAP Business Intelligence provides data warehousing capabilities to integrate business data from multiple sources for company-wide reporting.

After considering a number of vendors, China Telecom selected Hewlett-Packard (HP) hardware to run its ERP software because of its scalability, flexibility, low total cost of ownership, and ability to support SAP. Specifically, China Telecom chose the HP 9000 server family to run its SAP applications and HP StorageWorks XP128 Disk Array for its network storage infrastructure. Eventually, more than 30,000 employees will use the SAP and HP solution at more than 20 China Telecom subsidiaries. The deployment of the SAP software reflects the needs of each subsidiary. For example, most of China Telecom's business comes through Guangzhou and Shanghai, so those offices will use the financial, operations, human capital management, and analytic capabilities of MySAP ERP. The headquarters in Beijing will use MySAP ERP to run human capital management functions to centralize human resources management and consolidate enterprise-wide information.

The integration of data from MySAP ERP has accelerated the flow of information among accounting, procurement, and engineering management functions and encouraged collaboration among departments. Integration of data between the human resources and accounting functions facilitates analysis of personnel costs and performance-based compensation plans, which were previously very time-consuming. The software provides users with quick and easy access to unified data and applications through a Web browser. The hardware platform has stood up to the test of making large volumes of critical data available 24/7.

Going forward, China Telecom will focus on using MySAP ERP to further integrate with other systems so the company has a complete view of all its processes with customers, employees, and supply chain partners.

Questions to Discuss

1. What problems did China Telecom face? How did these problems affect China Telecom's business? How has the company chosen to solve these problems?
2. What other solutions might the company have tried? Analyze the solution that China Telecom chose from the people, technology, and organization perspectives.
3. Did China Telecom choose the best solution? Explain your answer.

Credit: *Management Information Systems and Cases-MGU*

5.9 SUMMARY

- Supply Chain Management is a broad-based function which encompasses all business and operational processes involved in but not limited to procurement, manufacturing, and finished goods transportation, warehousing and distribution and inventory management.

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- A warehouse management system is the combination of hardware computing devices, mobile and desktop software and peripheral interfaces for utilising in organising all aspects of a warehouse and stockyard.
- TMS encompasses solutions for moving freight in all modes and also includes intermodal movements.
- Labour management system (LMS) determines how many workers are needed and where they're needed to do the job efficiently.
- The order management system (OMS) may receive orders by fax, phone, EDI (electronic data interchange) or on the Web.
- A warehouse control system (WCS) is a layer of software that sits between a host system—either an ERP or WMS—and automated materials handling equipment.
- Logistics network optimization studies help companies to determine the optimal production and/or distribution infrastructure to manage customer service level objectives both today and into the future.
- Route analysis is the operation which aims at minimizing the cost of travel involved in transporting goods from one location to another whether in terms of trips required or time or distance or a combination of these.
- Radio-frequency Identification (RFID) is the use of an object (typically referred to as an RFID tag) applied to or incorporated into a product, animal, or person for the purpose of identification and tracking using radio waves.
- Location tracking is not one, single technology. Rather, it is the convergence of several technologies that can be merged to create systems that track inventory, livestock or vehicle fleets. Similar systems can be created to deliver location-based services to wireless devices.

5.10 KEY TERMS

- **Supply Chain Management:** Supply Chain Management is a broad-based function which encompasses all business and operational processes involved in but not limited to procurement, manufacturing, and finished goods transportation, warehousing and distribution and Inventory management.
- **Route analysis:** Route analysis is the operation which aims at minimizing the cost of travel involved in transporting goods from one location to another whether in terms of trips required or time or distance or a combination of these.
- **Radio-frequency Identification (RFID):** Radio-frequency Identification (RFID) is the use of an object (typically referred to as an RFID tag) applied to

or incorporated into a product, animal, or person for the purpose of identification and tracking using radio waves.

- **Global Positioning System (GPS):** It refers to a system of satellites and receivers that allow people and devices to pinpoint their precise location on the earth.

5.11 ANSWERS TO 'CHECK YOUR PROGRESS'

1. Supply Chain Management is a broad-based function which encompasses all business and operational processes involved in but not limited to procurement, manufacturing, and finished goods transportation, warehousing and distribution and inventory management.
2. A warehouse management system is the combination of hardware computing devices, mobile and desktop software and peripheral interfaces for utilising in organising all aspects of a warehouse and stockyard.
3. A transportation management system (TMS) helps companies efficiently, reliably, and cost-effectively moves freight from origin to destination. TMS encompasses solutions for moving freight in all modes and also includes intermodal movements.
4. RFID systems
5. Global Positioning System
6. Control segment
7. Microchip

5.12 QUESTIONS AND EXERCISES

Short Answer Questions

1. What is the importance of LMS software?
2. What is route analysis?
3. What are the key components of RFID?
4. Define GPS.
5. What are the key tracking technologies?
6. Write a short note on micro-chip technology.
7. What is the GIS technology of tracking?
8. What is a Personal Area Network (PAN) system?

Long Answer Questions

1. What are the key supply chain management software? Discuss their role and importance.
2. What are the key steps involved in software evaluation and selection?
3. Write a detailed note on logistics network optimization.
4. Discuss the concept of transportation routing, mileage and mapping software.
5. Define RFID. What are the key elements of RFID?
6. Discuss the concept of integrated GPS, wireless data and micro-chip technology system.
7. How the Global Positioning System (GPS) works?
8. Write a detail note on LMS, OMS and WCS.

UNIT 6 TRANSPORT TECHNOLOGY

NOTES

Structure

6.0 INTRODUCTION

Developing new sources of energy, communicating over long distances, mechanizing production—all these technological changes are central to world history. But no changes are as central as those involving transportation. Transportation always requires energy, whether it is "natural" in the form of animate muscle power or the power of the wind, water, steam, or internal combustion. Less than two hundred years ago, communication anywhere beyond sight or sound was totally dependent on transportation—information could be sent only by transporting word of it physically. And, in the absence of ready transportation to distant markets, it would have made no sense to develop mechanical means of producing goods in large quantities.

Once considered by only the largest businesses, transportation optimization is a strategy being adopted in greater measure by companies of all sizes. Grappling with volatility in demand as well as increasing transportation-related costs, businesses of all sizes are looking to supply chain management solutions such as emerging transportation optimization software to help drive and maintain competitive advantage More mature elements of supply chain management automation—like

enterprise resource planning (ERP) systems, warehouse management systems (WMS) and transportation management systems (TMS) – already enjoy widespread adoption and the business community is well-informed about their capabilities and efficacy. As those tools settle into years of industry-standard usage, supply chain managers are turning their attention to other niches within the supply chain where automation technology may be useful in unlocking additional savings and efficiency. Transportation optimization software is one such are a enjoying greater scrutiny today. Like all emerging technologies, early adopters face significant risks and hurdles. However, those that are successful gain significant advantage and blaze the leadership trail for others to follow.

6.1 UNIT OBJECTIVES

After going through this unit, you will be able to:

- Describes the key advances in shipping, flight, truck and rail technology
- Explain the billing and payment technology
- Discuss the concept of ISO 9000, TQM and benchmarking.

6.2 ADVANCES IN SHIPPING TECHNOLOGY

More than 90 percent of world trade is moved by the maritime commercial shipping industry. Subject to free market forces, this industry has achieved a high level of efficiency, which has contributed to the expanding global economy by enabling the low-cost movement of goods around the world. Worldwide seaborne trade has more than quadrupled in the last 40 years and now exceeds 6 billion tonnes per annum, with an annual growth rate of about 4 percent. Currently some 10,000 shipping companies flying the flags of 150 different countries operate a commercial shipping fleet of roughly 50,000 vessels.

The liberalization of trade in the last few decades has led to specialization among regions around the world. Asian countries have become the leading providers of manufactured goods, for which container ships are the preferred form of transport to overseas markets. In the United States, the demand for petroleum products remains strong while domestic production continues to decline. Thus we can anticipate significant increases in the importation by sea of crude oil and liquefied natural gas (LNG). The growing demand for resources and continuing climate change are expected to create new opportunities for resource exploration, production, and shipping in the Arctic region. More than ever before, the economic and societal well-being of the United States is dependent on efficient, safe, and environmentally friendly deep-sea shipping.

Overview of the Shipping Industry

The merchant fleet consists of a variety of ship types and sizes:

- Tankers carry liquid cargoes. The world tanker fleet consists of oil tankers (crude-oil tankers and product tankers), chemical carriers, LNG carriers, and liquefied petroleum gas carriers. Tankers vary in size from small coastal vessels to very large and ultra-large crude-oil carriers with cargo capacities in excess of 350,000 cubic metres (m^3).
- Bulk carriers are vessels designed to carry dry cargoes, such as ore and grain, in bulk. These ships range in size up to capsize bulk carriers, which are capable of carrying more than 200,000 tonnes of cargo.
- Container ships are vessels designed to carry manufactured goods and unitized products in standard-sized freight containers. There are more than 4,000 container ships, ranging in size from small feeder ships to large post-Panamax container ships that can carry more than 12,000 20-foot equivalent containers (TEUs).
- Other cargo ships and barges include general cargo ships, reefer ships, roll on-roll off (Ro-Ro) vessels, car carriers, forest-product carriers, barge carriers, heavy-lift ships, dry and tank barges, and articulated tug and barge units. Many of these are specialized vessels designed to carry specific types of cargoes.

Remarkable improvements in the efficiency of maritime transportation have been made in the last 50 years. The costs of bulk shipping have increased only about one-tenth of the overall inflation rate, not even double what they were 50 years ago. This translates into lower costs to the consumer. For example, in the United States seaborne transportation adds only about 2 cents to the price of a gallon of gasoline, $10 to the cost of a television, and a few hundred dollars to the cost of a car.

New concepts, such as container ships, LNG carriers, open-hatch forest-product ships, and car carriers have revolutionized the way products are moved. Other improvements have been in the productivity of shipbuilding, the efficiency of hulls and propulsion systems, reductions in manpower requirements through automation, and economies of scale brought about by larger and larger ships.

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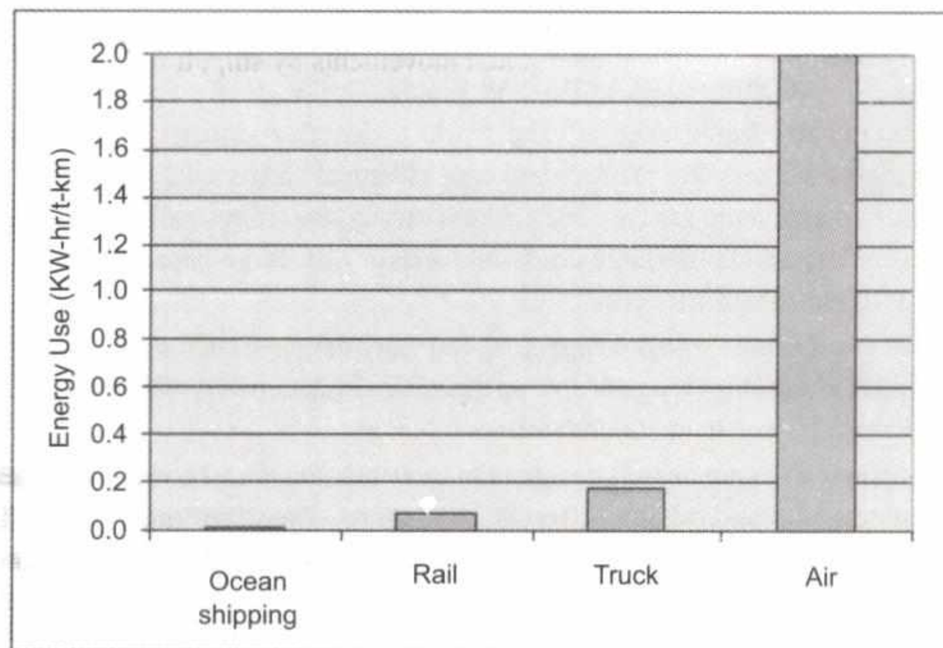


Fig. 6.1: Comparative Efficiencies of Transportation Modes

As shown in Fig. 6.1, compared to other transportation modes, shipping is a very efficient means of moving cargo over long distances. The high level of efficiency has not only lowered transportation costs, but also significantly reduced greenhouse gas emissions per tonne-mile of cargo moved.

Marine transportation systems have many components that must interact efficiently to provide overall system efficiency. These include ships, marine infrastructure, tugs, navigations aids, search and rescue facilities, salvage and firefighting support, port security systems, pilotage, bunkering facilities, ports and terminal infrastructure, multi-modal interfaces, environmental incident-response systems, and so on. In addition, the US marine transportation system is multifaceted, including ocean-freight transport, Great Lakes and great river navigation and coastal cabotage, and major passenger ferry operations.

Although both domestic and international waterborne transportation are essential elements in the economic life of the United States, this article is focused on three specific sectors that are undergoing particularly rapid change: container shipping, LNG transportation, and arctic navigation. In all three of these sectors, US designers, shipbuilders, and owner/operators have played key roles in developing technologies that have led to major innovations and successful implementations.

Container Shipping

Container shipping began modestly in 1956 when Malcolm McLean moved 58 containers from New York to Houston. In the late 1950s and 1960s, McLean's Sea-Land Services and Matson Navigation Company were pioneers in the design of cellular container ships, containers and the means to secure them, container cranes,

and other port infrastructure. Within a short time, containerization had revolutionized the transportation industry, and intermodal movements by ship, truck, and rail had become the preferred method of moving manufactured goods and other unitized products.

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During the early and mid-1980s, the size of container ships stabilized at about 4,500 TEUs, and the largest container ships had a beam of 32.2 m, the limiting dimension of the Panama Canal. In 1988, America President Lines (APL) took delivery of the first post-Panamax container ship, which had a beam of 39.4 m and an overall length of about 275 m. Post-Panamax ships are specifically designed for trans-Pacific service. Arranged with a single 41,900 kilowatt (kW) slow-speed diesel directly connected to a single propeller, these vessels are capable of service speeds of more than 24 knots.

The APL post-Panamax design incorporated many innovative features, including lashing bridges for securing on-deck containers, which significantly increased the number of containers that could be carried. Coincident with the introduction of these larger ships, APL developed stack-train technology, which makes it possible to load containers too high on flat railcars. These technological advances provided marked competitive advantages, and in time, post-Panamax container ships became the de facto standard for moving containers in the trans-Pacific and Far East-to-Europe trades.

Although there are diminishing economies of scale for further increases in ship size, the rising price of fuel oil has encouraged the construction of increasingly large container ships. The largest container ships that can transit the Panama Canal have slot capacities up to 5,000 TEUs, but the canal is being enlarged to accommodate container ships of about 12,000 TEUs. The Suez Canal size limit is about 14,000 TEUs, and the Straits of Malacca limit is about 18,000 TEUs.

At this time, the Emma Maersk is the largest container ship, with a length of 398 m, a beam of 56.4 m, and an estimated capacity of more than 12,000 TEUs. Samsung Heavy Industries of Korea is now offering a design with a slot capacity of 16,000 TEUs.

The designers and builders of these mega container ships face many technical challenges. The main deck of a container ship has large hatchways so containers can be efficiently loaded into the holds. This open section leads to significant torsional deformation of the hull girder. Great care must be taken to ensure the water tightness and structural integrity of the hatches and to prevent fatigue cracking at the hatch corners and structural transitions. Sophisticated finite element models are used to evaluate design strength, and loads are developed from linear and nonlinear sea-keeping programs and model tests.

Transportation of Liquefied Natural Gas

On January 25, 1959, the first ocean cargo of LNG was transported from Louisiana, bound for the United Kingdom, by a small US cargo vessel that had been converted

to the world's first LNG tanker, the M.V. Methane Pioneer. Following delivery of the initial cargo, the ship continued to make periodic deliveries, but the first regular trade in LNG in purpose-built carriers was established between Algeria and the United Kingdom in the mid-1960s. In 1969, Phillips Petroleum (now ConocoPhillips) opened an LNG plant in Kenai, Alaska, and began to export US gas to Japan. Almost 40 years later, this trade is still in place.

LNG cargo is lightweight and cryogenic, with a specific gravity of approximately 0.45 and temperature of −163°C. Because liquid gas slowly boils as it is transported, LNG carriers must have cargo-containment and cargo-handling systems capable of safely handling this cold cargo. Two types of cargo tank systems have been developed: independent tank systems and membrane tank systems.

Independent tank systems have stainless steel or aluminum tanks (both perform well at low temperatures) that are installed into a ship and are supported independently of the main ship structure. The most common independent tank system has spherical tanks that stick up through the deck, giving the ship a distinctive profile.

Membrane tank systems have a cryogenic metallic membrane that is installed against the inner hull of a double-hulled ship to protect the ship's steel from low-temperature effects. Membrane-type LNG carriers have a less distinctive profile, although they are relatively high freeboard ships. These ships require high-volume tanks because of the low specific gravity of LNG (approximately half the specific gravity of oil products).

Most new LNG ships have membrane tanks with a typical capacity of about 40,000 m^3. Special techniques and equipment are required to manufacture and install membrane tank systems, and only a few shipbuilders, mostly in Korea, are constructing LNG ships.

Until a few years ago, the largest LNG carriers had capacities of less than 160,000 m^3. However, large gas developments in Qatar led to a major new building program of more than 40 new LNG carriers, ranging in size from the QFlex design (capacity of about 212,000 m^3) to the QMax design (capacity of about 266,000 m^3). This was a quantum jump in size for an industry that prefers to mitigate risk by making incremental changes. The designs were a collaborative effort of major oil companies and Korean shipyards.

To ensure safety and reliability, extensive design and risk evaluations were carried out during the design process. One of the principal concerns was the development of rational design parameters for scaling up the membrane-containment system. A single tank on a QMax LNG carrier measures about 48 m wide X 28 m high X 58 m long and can hold about 58,000 m^3 of LNG. A variety of techniques were used to design these tanks, including CFD analysis and tank tests to evaluate the sloshing modes, first-principle structural analysis, and full-scale destructive testing of the membrane elements.

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This new generation of LNG carriers has many unique characteristics, such as twin-screw, redundant propulsion and steering systems. The hull form is highly optimized, with a gondola-type stern that directs the flow into the propellers. Whereas most existing LNG carriers burn boil-off gas in steam plants, these ships have highly efficient diesel engines. Instead of burning the boil-off gas, it is re-liquefied and returned to the cargo tanks, enabling the delivery of the full cargo payload to market.

The current trend in LNG propulsion is dual-fuel engine that burns both boil-off gas and fuel oil. Designs are available for both medium-speed diesel engines and slow-speed diesel engines. Gas turbines are also being considered.

Arctic Navigation

For centuries, people searched for navigable routes from Europe to Asia along the Northwest Passage (North America) and the Northern Sea Route (Russia). Today these routes can be navigated, with some difficulty, allowing ships to pass from the Atlantic to the Pacific and vice versa. But experts generally agree that the main use of these northern sea-lanes is likely to remain voyages to specific destinations rather than transpolar voyages; access to Arctic resources and tourism are the main reasons for sailing north.

The Arctic, which is rich in natural resources, has historically provided both biological and mineral resources, such as fishing and whaling (Greenland, Alaska, Canada, and Russia), lead and zinc ore (Greenland, Canada, and Alaska), nickel ore (Russia), iron ore (Canada), coal (Norway), and oil and gas (Alaska, Canada, and Russia).

Global climate change over the past few years has reduced the Arctic Ocean sea-ice cover in the summer months, and some predictions are that the summer ice cover will disappear totally by mid-century. Winter ice cover will, however, remain, although predictions are that the thickness of the ice will decrease. Nevertheless, navigation will still be challenging.

Operational changes, such as reducing ship speeds, optimizing ship turnaround times by streamlining port logistics, and tailoring shipping routes to real-time weather and ocean current conditions are already expected to produce significant efficiency gains under "business as usual" due to non-climate-related factors, such as rising fuel prices. With additional support through policy interventions, incremental operational changes could reduce GHG emissions by an estimated 27 percent below BAU projections by 2025.

Advances in shipping technology hold the potential for additional GHG reductions. Larger ships are more efficient than smaller ones. For example, doubling the size of a vessel could increase energy efficiency by as much 30 percent. Such changes in ship design and propulsion could further reduce GHG emissions by 17 percent below BAU projections for mid-century.

Only a small degree of switching to alternative fuels is projected under "business as usual." Replacing heavy fuel oil with modified diesel oil, a slightly less carbon-

intensive fuel, could reduce CO_2 emissions by 4 to 5 per cent. Shifting to liquefied natural gas could reduce GHG emissions by as much as 15 per cent. When combined with other alternative fuel sources, such as wind power (sails) or biofuels, switching to alternative fuels could yield reductions of 38 per cent below BAU GHG emissions projections by 2050.

6.3 FLIGHT TECHNOLOGY

There are a number of major areas where we believe future developments in IT will create change within the airline industry.

One of the greatest impacts will come from the increasing influence of consumer review websites: for example, Tripadvisor.com, Airlinequality.com, Reviewcentre.com and other such sites.

In the first phase of the Internet's penetration of the industry, websites proliferated - offering transparency on ticket prices. These consumer review sites are evolving with the "architecture of participation" (or Web 2.0), encouraging users to add content to the website describing and rating their experiences. This is typified by resources such as BA's recently introduced Metrotwin social networking site.

6.3.1 Advances in Cargo Flight Technology

At present airways is one of the most comfortable, relaxing, convenient and fastest mode of transport. This high level of comfort has become a necessity for many especially for the elite class. Internet has given a huge thrust to the industry by heightening the comfort level in various ways. The first and the foremost benefit offered is the availability of cheap airfares through online booking. Anyone can now easily book the desired airline ticket through the internet. Many websites and portals have been exclusively designed and structured to ensure easy and convenient online booking. Travelers can also compare prices of different airlines flying to their desired destination and then choose the best offered price. On almost all the booking websites there are options of the price range and the time period that can be selected as desired. A selection of a specific price range will show airfares available in the desired segment. There are all possible ways to restrict or expand the search. It just takes a few clicks to get an airline ticket with ease and comfort and that also at cheap rates.

Apart from getting cheap airfares through online booking, technology has offered other benefits as well. Social networking sites like Twitter, Facebook and Orkut are giving a boom to the industry with their widespread reach and huge number of users. There are possibilities that every time an individual is searching for airfares he or she may not get into a specific airline website but with the help of social networking sites word can be spread out. Any deals or discounts released on such sites often pass on like a virus if done in the right manner. Through such sites a direct communication

with the customers becomes more efficient and this helps to nurture the existing customer base. As these social sites have a strong customer base it beholds the magic to empower users to spread the word.

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Purchasing airline tickets has actually been simplified with the introduction and of online reservation services. Amazingly, this valuable introduction has created a rage in the airline industry.

The following are key developments in flight technology:

Advanced Cargo Reservation System

A completely web based and user role controlled booking engine allows advance bookings to be made by end customers like freight forwarders from their location. Space allocation and confirmation of acceptance are electronically communicated with customers. The advanced cargo reservation engine provides booking agents and end customers assured cargo space on a passenger flight. The advanced cargo deploys technology that uses a combination of historical data and real time information provided by an airline related to each flight and makes such information available at the time of bookings. Agents can queue their bookings and get visibility of acceptance and confirmation as soon as freight reaches the warehouse or follow-on destinations.

Hybrid Airships

A hybrid airship is an aircraft that combines characteristics of heavier-than-air (HTA) technology, fixed-wing aircraft or helicopter, and lighter-than-air (LTA), aerostat technology. Examples include helicopter/airship hybrids intended for heavy lift applications and dynamic lift airships intended for long-range cruising. No production vehicles have been built, but several manned and unmanned prototypes have flown and successfully demonstrated the concept.

The term "hybrid airship" has also been used to describe an airship combining elements of different types of airships.

Hybrid Airships will revolutionize the way logisticians and intelligence analysts execute their missions. Commercial freighters will be able to pick-up product at the point of origin and deliver directly to distribution centers, bypassing ship, train and truck transport. Military freighters will be able to pick up supplies at sea and deliver directly to the "point of need" bypassing ports and ground threats. Nation States will be able to rapidly respond to humanitarian assistance or disaster relief when and where it is needed most. Intelligence analysts will be able to translate real time threat forensics into decisions. Hybrid Airships will enable special missions not currently possible with conventional aircraft.

The following are the key features of hybrid airships:

- Direct access to "point of need"
- Immediate access to "point of urgency"

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- Optionally manned
- Very large cargo bays
- Very large payload capacity: Up to 500 tons
- Very long range : Up to 6000 nm
- Ultra endurance for surveillance
- Faster than trucks, trains or sealift
- More survivable than trucks
- Operating costs are less than conventional transportation

Renewable Fuel to Meet Jet Fuel Specification

Today, jet fuel from renewable resources costs more than jet fuel made from petroleum and other fossil fuels, but that extra cost can be justified by the additional value of reduced emissions and zero carbon foot print.

The following fuels and energy sources have been considered in the report: Biodiesel, ethanol, methanol, Fischer-Tropsch synthetic kerosene, nuclear, liquefied H_2 and liquefied biomethane.

Three fuel options were considered to warrant more detailed analyses is:

- **Synthetic Fischer:** Tropsch kerosene produced from biomass. FT kerosene could be blended with or used as a substitute for conventional kerosene.
- **Biodiesel:** Biodiesel has the potential to be used as a "kerosene extender" by blending it with conventional kerosene up to a maximum of approximately 10%–20% by volume.
- **Hydrogen:** Hydrogen aircraft have been the subject of much research in Europe, the USA, Russia and elsewhere since the 1950s. In the long term, H_2 could be used in place of kerosene to fuel jet aircraft, although major changes in aircraft design would be required. Engines would have to be modified, in particular to keep NOx emissions within acceptable levels. Moreover, airframes would have to be fundamentally redesigned to accommodate the larger volumes of fuel necessitated by H_2's lower energy density. Designs include planes similar to current large passenger aircraft but with additional fuel tanks running above the length of the passenger compartment, or the more radical "blended wing body" or "flying wing".

Hydrogen aircraft emit more water vapour than kerosene aircraft, and more research is necessary to understand how the radiative forcing effect of such emissions varies at different altitudes. Hydrogen aircraft will clearly be required to meet the same stringent safety standards as conventional ones, although if public perception of H_2 safety is negative this may necessitate additional proving.

Developments in Cargo Screening Technology

A variety of technologies are used to screen air cargo, and new technologies are under development. However, much of the equipment currently certified for use, is most

appropriate for the passenger screening environment and is ill-suited to the air cargo environment where palletized or other consolidated shipments are the norm.

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The characteristics of air cargo shipments differ significantly from those of checked baggage or passengers. For instance, air cargo does not follow the 'typical' dimensions, commodities, weights or volumes (i.e., number of pieces) encountered at baggage or passenger operations. Commodities transported by air range from machine parts, electronics, pharmaceuticals and fresh vegetables to bee hives, various chemicals, and many other items. Shipment weights range from less than a kilogram to several hundred tonnes. Similarly, shipment sizes vary from a few square inches to hundreds of cubic metres, and parcel counts within shipments range from one to thousands of pieces. Air cargo can be transported on dedicated freighter aircraft or in the cargo holds ("bellies") of passenger aircraft, adding yet a different dimension in the means of transportation. Various combinations of these characteristics create a very complex environment.

Air cargo security on passenger aircraft has focused primarily on explosive detection rather than the threat of stowaways. This is because bellies on passenger planes are usually not suited for stowaway hijackers due to the lack of access from belly holds to the main deck.

Until recently, the biggest threat from air cargo transported on freighter aircraft was thought to come from hijackers hiding in cargo pieces. However, the "Yemen incidents" have shown that terrorists will also target freighter aircraft with improvised explosive devices (IEDs), either aiming to destroy the aircraft itself, use the aircraft to target population centres on the ground or to cause harm further down the supply chain (for instance when freight is delivered to the consignee). Therefore, mitigating threats from potential stowaways and explosives detection for cargo transported on freighters are equally important.

The following are the key technologies that are used for screening purpose:

1. Explosive Trace Detection (ETD)

ETD is likely the most popular technology used by airlines and freight forwarders to screen air cargo. With ETD, samples of particles are collected from the pieces of cargo being screened and then analysed for traces of explosives or vapours which explosives may give off.

ETDs are relatively inexpensive (typical purchase prices are in the tens of thousands of dollars rather than hundreds of thousands), which has contributed to their widespread popularity. However, the amount of consumables is proportionate to the usage and has to be taken into the overall cost considerations. The analysis of samples presented to the ETD may take only a few seconds, but the overall sampling and analysis process can be labour- and time- intensive.

2. Non-CT X-Ray Machines

X-ray technology is well established and many off the shelf solutions are available. With currently 60 systems available from seven different original equipment

manufacturers (OEM), X-ray forms by far the most diverse category among TSA-approved cargo screening devices. An advantage of X-ray machines is the capability of processing cargo consisting of multiple pieces. It is not necessary to break down freight to its smallest packing component. Some of the larger systems can readily accommodate skidded freight (48x48x60 inches), which increases the overall throughput and efficiency of this technology for cargo screening.

Non-CT X-ray machines are relatively expensive (several hundred thousand dollars per unit) and usually only economically suitable for relatively large cargo operations. While there is a reduced need for consumables compared to several other screening methods, efficient operation of an X-ray machine typically requires 2-3 people. An X-ray machine is installed in a fixed location and requires a designated area beyond the machine footprint to accommodate efficient operations and maintenance activities.

A spotlight on standards

The rise of participating consumer review content will throw a large spotlight on product and service standard differences between airlines. Airlines that treat passengers with indifference will find it much harder to retain existing passengers and to attract new ones.

Knowledge drives consumer behaviour

Passengers will develop a good knowledge of the service and the product of each airline. For example, crew service standards, seat pitch, meals offered, drinks offered, in-flight entertainment (IFE) experience and so on. With that knowledge and insight, they will make their choices accordingly.

We anticipate that this extensive consumer knowledge of airlines' relative merits will increasingly drive consumer behaviour. Airlines delivering a sub-standard product and treating passengers with indifference will eventually go out of business.

Enhancing journeys, saving costs

The drive towards integration enabled by the Internet, open source software, service orientated architecture and mobile computing will, we believe, also continue to create change in the airline industry.

It will lead to a number of opportunities for airlines to enhance a passenger's journey experience and to simultaneously save costs.

For example:

- Delivering to customers the ability to both check-in via their mobile and then to use a barcode displayed by their mobile's screen as a boarding pass will smoothen the passenger's journey and at the same time reduce airline costs.

- Providing live flight status information to airline staff and passengers via the same Internet-based application will streamline communication processes, giving passengers the most up-to-date data and reducing airline costs.

We therefore, believe that the next 5–10 years of technological change will bring significant benefits to those airlines that embrace the opportunities and to those passengers who choose to fly with them.

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6.4 TRUCK TECHNOLOGY

The automotive industry is preparing the passenger car and small van market for a diversification of its energy source as part of a transition from fossil fuel powered engines to hybrid, battery electric or fuel cell electric technology. Changing the energy sources for heavy freight transport is more challenging but progress is being made and the first example of mild hybrid propulsion for heavy trucks is now on the market.

The technical challenges mean that for heavy trucks (e.g. >12 tonnes) used in long distance transport diesel engines will dominate the market in the short to medium-term future. Compressed natural gas may also gain a role for freight transport in environmentally highly sensitive areas and electric traction may be introduced for special purposes, such as drayage operations in port areas with low air pollution limits.

Engines

Today's long haul trucks carrying 40–44 tonne have engine powers between 260 kW and 360 kW, Corresponding to 7–8 kW/tonne, depending on the intended use of the vehicle. A 40-tonne truck and trailer unit only needs about 120 kW at constant drive at 85 km/h on a flat highway to overcome tractive resistances. The additional power is only required for accelerating and climbing hills (modern vehicles can climb a gradient of 3% to 4% in the highest gear without losing speed).

While in the past displacements between 12 and 17 litres were necessary for the 400 HP class (294 kW), new generation engines reach 300–380 HP using an 8-litre engine and 450 HP with only 10 litres displacement (ATZ, 2008). The reason for this is the installation of exhaust turbochargers and better ignition as a result of higher fuel injection pressures. This engine downsizing reduces engine mass and increases the available payload.

Fuel consumption for a truck has decreased over the past 30 years from about 50 litres/100 km to 30–35 liters/100 km, while the engine power has doubled from about 180 kW to 360 kW. The engines of today's trucks have high thermodynamic efficiency, but it is possible to decrease the fuel consumption further to about 25 liters/100 km, for example, by downsizing the engine, reducing aerodynamic drag,

reducing rolling resistance and improving the efficiency of auxiliary systems. These potential improvements are described in more detail in the following sections.

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Tractive Resistances

When driving a truck at constant speed on a flat level road about 40% of the fuel consumed is used to overpower the air resistance (drag) and 45% is needed to overpower the rolling resistance. The rest is consumed by power train losses and auxiliaries.

Aerodynamics

In simple terms, the air resistance depends on the drag coefficient, the cross-sectional area of the front of the truck, and the square of the velocity with which air passes over the truck, if the speed and dimensions of a truck are assumed to be fixed, the only parameter which can be improved is the drag coefficient (cw).

Aerodynamically most trucks and articulated vehicles of today can still be described as "wheeled bricks" [CEO of MAN in Wirtschaftswoche Nr 36 Sept.2008]. The drag coefficient (cw) of today's trucks and tractor-semitrailer combinations vary from 0.5 up to 0.9, but could, theoretically at least, be improved to about 0.3. In this case, 150m has been added to the length of the semitrailer and 0.70m to the tractor in order to keep the same cargo volume capacity as a standard vehicle. Such an increase in the length of the tractor unit could potentially also be used to improve the truck's safety through improvements to pedestrian protection, field of view, improved underrun protection and truck occupant protection.

T&E has researched the potential of devices available on the European market to reduce aerodynamic drag at the rear of trucks, finding a potential to cut CO_2 emissions in the range 5–8% (T&E, 2010). It recommends amending European type approval regulations of truck dimensions to exempt such devices from length measurement up to a maximum of 0.6 m. It similarly recommends modifying underrun protection legislation so that it is not a barrier to the use of aerodynamic devices certified to be safe.

Tyre roiling resistance

Nearly half of the drive resistance at constant speed comes from the rolling resistance of the tyres. In reality (mixed traffic) every 3° fuel filling is related to rolling resistance. The tyre rolling resistance coefficient is the ratio of the rolling resistance force to the wheel load in percent. The rolling resistance coefficients of truck tyres are lower than those of passenger car tyres. Rolling resistance changes with load and inflation pressure and marginally with speed. The smaller the tyre diameter the higher the rolling resistance coefficient and drive axle tyres have higher rolling resistance coefficients than steering axle tyres.

The total rolling resistance is dependent on the number of tyres on the vehicle and the wheel loads. A decrease of 20 to 25 % in rolling resistance would save about 10% of the fuel. Theoretically a 2.2 % average rolling resistance reduction for all tyres on a truck translates into a 1% fuel saving ($0.022 \times 0.45 = 0.01$). Today's trailer tyres (towed axle tyres, 385 mm size) have a rolling resistance at about 0.6%.

The US Environmental Protection Agency's SmartWay Transport Program encourages use of wide base single tyres to replace twins and aluminium wheels to replace steel rims. The 21st Century Truck Partnership in the United States aims for a target of 40% reduction in rolling resistance, it has identified that major breakthroughs in material dissipation properties, tyre construction, and wear and traction optimization are needed to improve rolling resistance. The tyre manufacturer Michelin expects to reduce the rolling resistance (and the wear) of truck tyres by 50% in the 25 years to 2030 by continuous improvement with a potential 20% fuel saving per vehicle.

Finally, rolling resistance is not generated by the tyre in isolation but by the tyre rolling over the road surface. Thus, the texture and evenness of the road surface also contribute to rolling resistance. If pavements can be conceived with durable texture and low rolling resistance without critically reducing friction then additional fuel saving would be possible. There has to date, been little research in this area.

6.5 RAIL TECHNOLOGY

There is no doubt that railway transportation has a great future—it perfectly matches the needs of our modern society and economy, which is characterized by increasing mobility of goods and persons, high value of time saving, and demand for more safety while ensuring sustainable development. The public is coming to appreciate more-and-more the advantages of railways over other transport modes—higher energy efficiency, lower land occupation, lower emission (CO_2, pollutants), etc.

However, although rail's future looks brighter than it has for years, the world is changing fast with more competition between transport modes. For example, low-cost airlines are now competing directly with railway operators over some sectors. To make rail's bright future a reality, railway engineering companies must prepare and anticipate by investing in new technologies.

The new transportation systems (high-speed rail, tilting trains, digital signalling, driverless metros) developed in the last 20 years are now mature worldwide standards. In addition to 'historical' operators extending their networks, newcomers are emerging and both groups are demanding more. And their customers—railway operating companies—are changing too. They are less technical, meaning less 'directive' in their technical specifications, but are becoming more commercial and more business-oriented in order to attract passengers and increase revenues.

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In this rapidly changing world, Alstom wants to be the leader in offering new products matching customers' needs as demonstrated by its 'Customer First' corporate slogan.

High-speed Rail Transport

High-speed rail was born in Japan, and the ground-breaking work of Hitachi and Kawasaki Heavy Industries in first bringing the Shinkansen "bullet" trains to the world has continued into their latest generation product—the E5 Series—used on Japan Rail East's new 300km/h Hayabusa (meaning 'Peregrine') services.

Specifically engineered to address many of the nagging noise and comfort problems of high-speed travel, the Hayabusa sports a new 15m nose to help eliminate 'tunnel boom', covered bogies to reduce track noise, and a single, re-designed pantograph per car, to cut the sounds of the overhead power connection.

Digital signalling

The new European Rail Traffic Management System (ERTMS) represents a huge change in European train signalling systems. It is the first system adopted by all European networks after many decades of each country using dedicated national systems. It is the first digital system using a 'non-specific railway' media transmission called GSM-R between infrastructure and rolling stock. The system is flexible and can manage the movement of any train operating on any network, offering migration of train intelligence from the trackside onto the train. This is a real signalling revolution.

Now the time for implementation has come after years of development (and millions of euros in costs); Alstom is playing a key role in implementation by taking the lead in two major European projects—conventional lines in Switzerland, and a new high-speed line between Rome and Naples in Italy, as well as other Europe-wide projects. One challenge is keeping with the 'base' product guaranteeing Europe-wide interoperability, while taking as much account as possible of the specific needs of customers who are not ready to adapt their operational rules to the new ERTMS.

It is imperative for Alstom to make ETRMS an operational reality, because it is of paramount importance in development of European cross-border operations!

Driverless metros

After the great success of our first fully driverless Singapore subway, operated by Singapore MRT Ltd., the first system in the world designed and implemented by a single company, our goal is to create a unique generic product that we are calling Urbalis Evolution to meet the needs of every customer worldwide. It will support both the moving-block signalling system for driver operation as well as driverless operations, providing an easy migration path when the time is ripe. Support for platform doors, or any other system offering a very high level of safety for controlling passenger access to trains, is another example of the system's flexibility.

6.6 BILLING TECHNOLOGY

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Billing represents the final processing stage for a business transaction in Sales and Distribution. Billing is also the essential link between sales and financial accounting.

A billing agreement is a purchase/sales agreement between the store and the customer that is signed/authorized on the side of a payment service. In other words, a billing agreement is a payment method that allows customers to place orders without providing payment details to the store. After the customer signs a billing agreement with the store on the side of the payment service, the latter provides the store and the customer with the reference ID for the signed billing agreement. The reference ID is a unique number assigned to a billing agreement by the payment system. During further purchases, the customer selects the billing agreement as the payment method and uses the billing agreement reference ID. No other payment information is required for placing an order. The payment system verifies billing agreement information and whether the payment can be fulfilled by the reference ID specified by the customer.

Billing document is an umbrella term for invoices, credit memos, debit memos, pro forma invoices and cancellation documents. Billing documents are created with reference to a preceding document (copying controls). Create a billing document has different effects on various areas in the system:

- Editing the invoice paper
- Updating the document flow
- Updating billing status
- Updating credit account
- Forwarding data to Profitability Analysis (CO-PA)
- Creating documents in financial accounting

When you create a billing document, the G/L accounts are updated automatically

Credit/Debit Card Billing

Using payment cards—such as credit or debit cards—can provide many benefits for your business. As a buyer, they offer a range of alternative ways of paying for goods or services instead of using cash or cheques. And, as a seller, accepting these cards could help you sell more and reach new customers.

Making or receiving payment with each type of card is a similar process. What differs between each card type is their terms and conditions, and how they are funded.

Credit cards

- allow the cardholder to spend up to a specified credit limit
- offer the account holder an interest-free period

- require the account holder to repay at least the minimum amount each month, but charge interest on the unpaid balance
- incur no interest if the bill is paid in full by the specified date

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Debit cards

- are issued in conjunction with a bank or building society current account
- limit the cardholder to the funds available in that account plus any overdraft, if available

How the card payment process works

Unless a cardholder later disputes a transaction, the card payment process for card present or face-to-face transactions is very simple:

- When customers make a purchase, their card should be inserted or swiped through your terminal or you key in their card number if you're taking an order by phone, email or fax.
- You key in the transaction amount.
- If the transaction is face-to-face, in the majority of cases for UK-issued cards, the customer usually has to enter a PIN (personal identification number) to verify the purchase and that they are entering into the transaction. This is a crucial step in preventing fraud, as cardholders cannot claim they did not make a PIN-verified transaction. Customers undertaking a contactless transaction simply hold their contactless enabled card up to a secure reader to make their payment.
- The terminal checks to see if the card is valid. In addition, in a majority of cases, the terminal sends details of the transaction via your aquiring bank to your customer's card issuing bank to check if sufficient funds are available to complete the transaction and that the card has not been reported as lost or stolen. Where these checks are passed the transaction is authorised and an authorisation code for the transaction is generated.
- Once a transaction is completed, your bank processes the transaction and credits your account with the customer's money—usually within three to four days. A processing charge is applied by your bank.

However, an authorisation does not guarantee that a transaction is not fraudulent or that it will not be charged back at a later date.

All payment transactions using UK-issued cards and where the customer is present have moved to the chip and PIN system. In the majority of cases, transactions using these cards will be verified by the customer entering a PIN.

The exceptions to this system include transactions where the customer is conducting a contactless transaction, is using an old style or overseas card, or where a disabled customer has a chip and signature card because their impairment prevents them from

using chip and PIN. The card will 'tell' your terminal what verification method is required.

Contactless cards are secured by the same technology that underpins chip and PIN. Although contactless transactions do not usually require a PIN to be entered, occasionally the terminal will ask the cardholder to undertake a full chip and PIN transaction.

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Case Study of J.P. Morgan Chase : The Credit Card Segment of the Financial Services Industry

As result of mergers and acquisitions activities Chase Credit Card Services (CCS) became fifth-largest credit card issuer in the industry. Being a child of a highly reputable J.P. Morgan Chase bank the CCS has many competencies and competitive advantages in order to compete in the already saturated credit card market. Evolvement of internet and technology, globalization, legislation and modernization of financial industry is giving new opportunities for expansion of the credit card business. Despite intense competition among the banks to acquire and retain profitable customers this market still has a great potential for the right players. CCS reached a critical point when it is equipped with the right instruments and now needs to demonstrate that it is able to leverage them in the most optimal way to maximize its profit and prove to its parent investment banking company that it still deserves to be a part of Chase core business.



Strategic Issues

- *Business and Corporate Credit Cards*

This sector is a growing and profitable segment of CCS which has a potential for even more growth especially in corporate card market. The revenue in this business is mainly derived from fee income and this reduces a reliance on interest rates. In addition to that the corporations guarantee payments on charges made by their employees that eliminate a problem of loan losses. Although this market is dominated by American Express the CCS has recently acquired Paymentech business with its industry leading platform for acquiring and servicing corporate credit cards. CCS's president explicitly stated that this is a strategic growth area for the business.

- *Domestic and International Expansion*

The trends of consolidation and technological advance in the credit card segment require CCS to decide the geographical scope in which it should expand the business. J.P. Morgan Chase did not have an international presence

of its commercial banking but it did have a strong international presence of its investment banking sector. So CCS could leverage this brand name recognition on other countries to acquire new customers. Although CCS does not have an appropriate infrastructure to service credit card customers abroad it has a capital to acquire international portfolios along with the required technology and infrastructure. The only competitor of CCS in international business is Citibank which has a dominant position. However, the industry is consolidating much faster that Citibank alone can absorb. So if CCS starts competing for international portfolios it can participate with Citibank in absorbing this consolidation.

The consolidation trends are intense in the domestic market as well. Many commercial banks exit credit card business and put their portfolios up for sale. CCS has a needed capital to acquire these portfolios as well as a leading infrastructure already in place to service them. Due to tremendous potential of the internet and technology CCS has lots of opportunities for internal growth on domestic markets. Online shopping and other activities require introduction of easy, secured and reliable payment methods and fast access to short-term credit.

Factors Contributing to Strategic Issues

(a) Industry Conditions

- **Intense Competition:** Credit card industry is already saturated several years and all players in this industry are intensively competing to acquire new profitable customers. The companies explore different ways to do it: co-branded cards, affinity cards, agent banking cards and others. A strong competition is present in all sectors: Individual, Business and Corporate. As a result of such intense competition there is a rapid consolidation in this industry. Smaller participants sell their credit cards portfolios to the largest firms and only those who have very strong competencies are able to survive in this business.
- **Buyers Power:** There are three categories of the credit card customers: individuals, businesses and corporate clients. Individual customers is the largest segment of this market but due to lack of brand loyalty, lots of other products and low switching costs, it is very hard and expensive to attain these customers. In this situation the customers have a high bargaining power which causes decrease in the profits. The main part of the income from individual and business customers is coming from the interest charged on revolving accounts. So these clients are strongly bargaining on the interest rates. The revenue from corporate clients is coming from fee income and does not depend on interest rates. Corporate clients are more loyal since they have more barriers to switch to other providers.

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- **Substitutes:** This is a very big threat. First of all, it is always possible to use cash, paper checks or electronic checks. Also there are debit and smart cards for online and regular transactions. The types of other credit cards are galore on the market. They all offer different features appealing to the clients: low interest rates, affinity with some organizations, rebates on certain purchases, etc.
- **Suppliers:** Since each credit card must be supplied with a lot of capital and this market is still growing and has great potential and in underserved areas the suppliers have a high power. They provide a capital, brand name and potential clients from their existing commercial and investment relationships.
- **Entry Barriers:** In light of the situation in this market the only possible way to enter is through M&A. Due to saturation levels this industry is not that attractive for the new players.

(b) Firm's Relative Strengths

Largest credit card issuer in the domestic market; strong competitor for corporate and co-branded credit cards with established relationships within airlines, gasoline and other industries; Parent company is well known in investment banking domestically and internationally; has a capital to acquire more credit card portfolios domestically and abroad; possesses a leading industry platform paymentech for acquiring and servicing clients; has chase.com site for serving online customers allowing them to check balance, online statements and pay bills electronically;

Alternatives

Corporate clients segment

- **Pros:** Still has good growth prospects; has a higher entry barrier since acquiring new corporate clients, is more based on very strong reputation of the issuer; requires a special technology for servicing; does not depend on interest rates as revenue is coming from fee income; payment on charges is guaranteed by corporations so no loan losses.
- **Cons:** Sector is dominated by American Express; more sales efforts should be done to acquire new clients (direct mail, advertisements, etc. would not work).

Individual clients segment

- **Pros:** Market is very large; various sources of income (interest charges, late and administrative fees, annual fees); many channels to offer cards (co-branding, affinity and agent banking);

- **Cons:** Extremely intense competition; lack of brand loyalty; dependence on interest rates; loss on defaulted loans; low switching costs; many other payment alternatives;

Domestic expansion only

- **Pros:** Many portfolios are up for sale and CCS has a required capital; good technology for acquiring and servicing domestic clients is already in place; strong commercial banking presence would help to acquire loyal customers; the strongest competitor Citibank is more focused on international expansion; most large domestic corporations already have relationship with J.P. Morgan Chase; no need to compete with foreign banks who have good relationships with foreign corporations that could limit CCS abroad.
- **Cons:** Citibank may change its focus from international back to domestic expansion; lack of diversification through international exposure which could protect CCS from declines in US economy

International Expansion

- **Pros:** Provides a good international diversification; strong international presence in investment banking sector would facilitate acquiring new customers; CCS able to compete for international individual and corporate clients as well; Only Amex and Citibank have greater name recognition worldwide, but Amex is more focused on charge card market while rapid consolidation allows CCS to participate in consolidation along with Citibank; international presence can be significantly leveraged in the future.
- **Cons:** Lack of international commercial banking presence; lack of international infrastructure for servicing; dominant position of Citibank

Recommendations

In light of the situation on credit card market and considering abilities and constraints of CCS I recommend to simultaneously focus on two directions: international expansion and acquiring more corporate clients in both international and domestic markets. It is very important to act fast in both these directions. CCS has just 24 months in order to demonstrate to top management its high profitability and prove their right to exist as a part of the JP Morgan Chase. CCS also has to catch momentum on the market. Due to all these consolidations domestically and internationally, availability of the required capital, strong name recognition of the parent and industry leading technological platform, CCS has

Check Your Progress

1. What are the billing documents?
2. Define e-payment.
3. What is electronic fund transfer?

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all that is required to have a great success in all these markets. It needs to pay attention not only on the external activities but also on its internal relations with the top management who may consider selling off CCS. The CCS management has to activate economies of scope leveraging brand name of investment banking parent in obtaining corporate clients domestically and expanding all types of activities internationally. It should create a kind of value chain within the bank which would show to top management that every time investment banking gets a new client the potential revenue for the same client can be significantly increased due to cross-sale of credit card service.

One of the CCS's most important goals is to create a one stop shop for financial services by leveraging a whole power of the financial giant which would allow it to become an integrative part of its core business and acquire a great market share of domestic and international credit card markets.

Source: *Scribd.com*

6.7 PAYMENT TECHNOLOGY

E-Payment is an online billing solution offering subscribed merchants' customers the facility of extending their payment options to online payment. E-Payments are secure real time payments that transfer funds (via the Internet) between a consumer and the merchant's financial institutions. E-Payments require secure communication between all components of the e-Payment process.

There have been significant advances witnessed in the Electronic Payments space in India over the last three years.

The Reserve Bank of India has drafted a vision document for electronic payments in India, an Inter Ministerial Group has suggested a pathbreaking framework for 'Mobile Linked No Frills Accounts', and the UIDAI project rolls forward. These and several other macro factors are catalyzing possibly the creation of a unique payments framework in India, stimulating the growth of both card-based and non card-based payment systems.

Have authored a document that attempts to summarize the key trends and developments in this space and outline some interesting opportunities emerging therein.

The document may be of interest to professionals and organizations operating in the banking and payments space or whose businesses are impacted by the developments in this domain.

E-Payments transfer funds via the following steps:

- The cardholder purchases goods/services from the merchant (for example, in person, via the Internet, over the phone).

- The merchant application sends a Payment Client Digital Order (via the Payment Server) to the merchant's Payment Provider.
- The merchant's Payment Provider directs the request to the cardholder's bank.
- The cardholder's bank debits the cardholder's account and transfers the funds to the merchant's account at the merchant's Payment Provider.

Electronic Fund Transfer

An electronic funds transfer (EFT) is a process whereby money is transferred from one place to another electronically. Computers are used to process payments in a variety of ways. The EFT procedure is a quick and efficient way to transfer money from one account to another.

EFT is used millions of times a day the world over. If you are earning a salary, your cash may be placed into your bank account by EFT. You can then withdraw money from an automated teller or use your debit card to pay for goods and services. Using your debit card in a store to pay for goods is another example of EFT.

EFT has simplified the money transferring process. Once money has been paid into an account using this procedure, it should be available immediately. Some banks and processes may hold up the transfer of funds in order to verify and process the transfer.

EFT has made buying and selling on the Internet a much simpler way to conduct business. Many Internet sites allow you to pay for goods by electronic fund transfer. This speeds up the transaction process, as money can be passed between accounts in real time. You can see when money has been deposited into your account within seconds of the other person sending it.

The Internet has also enabled workers to telecommute and be paid by EFT. Many people who work from home now work in different countries from their place of employment. With EFT, paying salaries into bank accounts is quick, safe, and efficient.

If you are using a credit card, debit card, or online account, you are using EFT. Because these transactions deal with the transfer of money, safety procedures must be put into place. Encryption, verification, and passwords are typically necessary for an EFT procedure to take place.

One of the biggest EFT tools available on the Internet is PayPal. Using the PayPal site, people can shop, move money to bank accounts, buy, sell, and request money directly from their bank accounts. The advent of PayPal has been responsible in creating thousands of small and large online businesses.

Another advantage of EFT is that currency is automatically calculated when funds are being transferred around the world. The currency and exchange rate from one country to another can be automatically worked out, and the money can be deposited into an account. EFT is both time saving and, in most cases, reliable.

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Case Study: eBay's Business Model

Founded in 1995 by Pierre Omidyar, eBay was considered a pioneer in the online auction industry whereby people are brought together on a local, national and international basis to serve the purpose of creating a person-to-person community where every individual could have an equal access through the same medium which is the Internet. eBay offers wide varieties of products and services for bargain hunters, hobbyists and collectors and sellers, changing the way people engage in trading. Hence, eBay had changed the face of e-commerce from its inception. Today, eBay is continuously the brand preference with over 39 market presence and with $60 billion of the total value of sold items on the site's trading platform.



Basically, eBay introduced several crucial innovations tailor-made for the internet at the business level, a strategy which was conceived to be an improvisation. The online auction business model is where eBay served as the value-added facilitator of trade between a buyer and a seller in a highly individualistic manner. The online auction model developed by eBay marked an important extension of e-commerce, offering millions of individuals a low-cost opportunity to engage in a new type of economic activity.

When Whitman arrived in 1998 as eBay's second president and CEO, eBay became a public listed company in September of that year, brand building recognition at eBay was prioritized. eBay's registered users had grown six-fold, to over 2 million. Under Whitman's leadership the company grew to over 200 million users globally and over $7 billion in revenue. During her tenure, Whitman helped eBay enter China, integrated globally recognized brands like PayPal and Skype into eBay portfolio and successfully steered the company through the dot-com bust by staying focused on its core users and core competency-online auctions. eBay made acquisitions in order to support its growth as a supplement to word-of-mouth and public relations advertising into tapping opportunities through national magazines and online alliances. These acquisitions aid in the expansion and improvement of the company's services.

eBay is currently the third top-ranked online auction company within its industry, with nearly one-third of US internet users registered on its site. The company is

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a substantial threat internationally as well, competing in the Asian, European, and Latin American markets. The online auction industry commands significant revenues that continue to increase to the projected amount of $229.9 billion by 2008. The outlook for both eBay and the online auction industry holds great promise, as is evidenced through the study of SWOT analysis, the driving forces of the industry, key success factors, eBay's financial status, and eBay's positioning in the market. eBay must also keep in mind the key strategic issues facing the company.

eBay's Business Model

eBay's business model was based on creating and maintaining a person-to-person trading community. After implementing their model, eBay has been able to build strategic partnerships, continue to make innovative changes and improvements, and monitor its internal and external environments for possible future opportunities. This has given them the prestige of being the world's largest online auction company.

Target Market

Sellers and buyers who transact online

Largest Online Auction

From its beginning in the mid-1990s, eBay has been growing in leaps and bounds. They now have over 94.9 million registered users in more than 150 different countries. eBay's founder Pierre Omidyar did not even see the tremendous possibilities that eBay had when it was first developed over ten years ago. eBay now holds the top spot in the online auction industry. In the United States alone one-third of the population is already registered with the site and with increasing use of the Internet that number is sure to grow.

Over 27,000 Different Categories

The wide variety of products offered on eBay gives them a competitive advantage above all other online auction sites. They are like the Wal-Mart of the Internet! They say that anything you want you can find on eBay.

Partnerships with International Companies

Partnerships abroad can be crucial to a company succeeding in foreign markets. By partnering with established foreign companies, like Alando in Germany, iBazar in France, Tradera in Sweden, Internet Auction in South Korea and Bazee in India, eBay is able to easily transition into those countries culture with the help of citizens who work with the partnering company. eBay also immediately acquires ties with companies in the foreign market, which makes it simple for them to make more partnerships and alliances. In 2007, eBay established a

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partnership with a Beijing-based Internet company, Tom Online Inc., taking 49 percent stake in the company and possessing administration rights. This allows ebay to have strong local management that understands the culture and consumer desires. Tom eBay has done much to win the trust of Chinese consumers such as using escrow service to hold payments until buyer confirms satisfaction with the product.

Over 250 Alliances

eBay aligned with Yahoo! In 2006 in a marketing alliance to promote revenue growth for both companies. Under this alliance, Yahoo! became the exclusive advertising provider on eBay and PayPal became Yahoo!'s preferred provider. Google also aligned with eBay in 2006, making Google the primary advertiser on eBay's websites outside of the United States. Google sought to integrate Skype into the alliance as a method to further sales from Web advertising. eBay also holds alliances with some of the largest companies in the world. They include Northwest and Southwest Airlines to enable PayPal as a method of payment option, and with Walmart and My-Space.com to promote growth of Skype, and Buy.com in 2008, a middle-of-the market tool that links retailers with buyers and immediately added five million fixed-priced listings to the eBay marketplace. These alliances create more opportunities for eBay to advertise and reach potential customers.

Acquisition

To increase its geographic reach and to move into related businesses such as online payments, to obtain technology that will strengthen its product differentiation, eBay has completed many acquisitions such as Half.com in 2000 to enter the fixed price market price for products like used books, CDs, games and DVDs; Paypal to enable sellers to receive online payments from buyers' credit cards or checking account; Shopping.com that allows people to search for products and compare prices, and Rent.com that joins landlords and tenants online, charging property owners for each lease produced. eBay then acquired 28 percent of Craiglist in 2004 and Skype in 2005, an internet phone provider to allow buyers and sellers to communicate prior to transactions. Other acquisitions would include Stubhub.com in 2007, a secondary ticket place marketplace that integrates guaranteed fulfillment and shipment using FedEx. And Fraud Science Ltd. in 2008 to detect fraudulent purchases and provide eBay with the technology that it needs, to improve the level of trust that it provides.

Positioning of eBay

eBay positions itself in the online auction industry using a broad differentiation strategy. By choosing this strategy eBay determined that the best way to achieve a sustainable competitive advantage over its rivals was to differentiate their service. The way in which eBay has set their online auction site apart from its

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competitors has lead customers to prefer their site over other online auctioneers and retailers

eBay's Broad Differentiation Strategy

eBay has created a one-stop-shopping experience that is appealing to large corporations, independent entrepreneurs, and individual buyers and sellers. They have created value through many facets of their business that appeal to their customers and differentiate them from the competition. The main ways that eBay differentiates themselves is through:

- Variety of products offered
- When customers visit eBay they can search for virtually any product. eBay boasts a category variety not matched by any competitor with over 27,000.
- The eBay community
- eBay wants their customers to feel like they are a part of a community. This community feel gives customers the sense that they are branch of something and cared about. By showing the customers that their feedback, opinions, and feelings are important eBay has gained tremendous ground with their customers.
- The eBay website
- eBay has created an auction and retail website that is unique and interesting. This creative site sets them apart from their competitors. The site is set up with many facets that reach a broad span of visiting buyers and sellers. The site is also entertaining and easy to use making it very appealing for online shopping and trading.
- The eBay brand name
- eBay was the creator of the online auction industry. When customers think of online buying they immediately think of eBay. This has given them a competitive advantage that sets them apart from other online auctions.
- eBay's global reach
- The global reach of eBay is not achieved by any other online auction site. For large corporations international selling and buying is done everyday. Even for an individual buyer or seller, having the option of searching throughout 150 countries with a span of 94.9 million users is very appealing.

Why the Differentiation Strategy Works Best for eBay

The users of eBay have many different preferences and needs depending on why and how they use the service. eBay has determined a way to satisfy their customers

whether they are large businesses or individuals. By offering a wide variety of products, globally expanding, and creating a community for all customers to join eBay has created a distinctive value unmatched by its rivals.

Analysis of eBay's Business Model

eBay's business model was based on creating and maintaining a person-to-person trading community. This allows buyers to easily search for what they want to purchase. It also allows sellers to post their items minutes after they have registered. There are a few specific elements of eBay's business model that they recognized as key to its success. They are:

- Being the largest online trading forum with a critical mass of buyers, sellers, and items listed for sale
- Its compelling and entertaining environment, which had strong values, established rules and procedures that facilitated communication between buyers and sellers
- Establishing programs such as Safeharbor to aid in disputes and to punish users who violate eBay
- Cost-effective and convenient trading
- Strong community affinity
- An intuitive user interface that was easy to understand, arranged by topics, and fully automated

By implementing their business model, eBay employed three main tactics. First, they looked to build strategic partnerships. Second, they looked for customer feedback to constantly make changes and improvements. Finally, they monitored its internal and external environments for possible opportunities. By doing all of these things, eBay was able to adapt to the changing ways and keep their customers satisfied.

Source: *Scribd.com*

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6.8 ISO 9000

The ISO 9000 originated from the quality standards of the US Department of Defense. The British Standards Institution (BSI) adopted the Department of Defense standards and expanded it to include the whole business process. The BS 5750 was published in 1979 to include broad range of business and organisations. At the same time EN 29000 was developed to cover the European Community. In 1987 International Standards organisation adopted the BS 5750 standard and the ISO 9000 series was published. The ISO 9000 though mainly based on BS 5750 standard reflects the

international requirement. The success of ISO 9000 lies in the fact that the three standards—ISO 9000, BS 5750 and EN29000 have been harmonized and are now equivalent. The ISO series comprises 9000, 9001, 9002, 9003 and 9004. The details are provided in table 6.1:

Table 6.1: ISO 9000 Series

Standard	Title	Coverage
ISO9000	Guide to selection and use	Defines elements of each standard. It covers quality management and general guidelines for selection and use.
ISO 9(X) 1	Specification for Design	Model for quality assurance in design, development, production, installation and servicing.
ISO 9002	Specification for Production	Model for quality assurance and installation in production and installation.
ISO 9003	Specification for final inspection and testing	Model for quality assurance in final inspection and testing.
ISO 9004	Quality management and quality systems elements	It covers quality management and quality system elements of standards guidelines 9001 to 9003. Provides guidelines for development and implementation of quality system

The ISO 9000 series does not lay down goals and objectives; it rather provides a framework, methods and structure for organizations to adopt quality systems. It is applicable to virtually any type of organization. The standards have been developed keeping the manufacturing units in mind. As a result it is not very useful for the service sector. These standards are for quality management systems and go beyond technical specifications. The emphasis of ISO 9000 is to assure that the manufacturer's products are consistently same always even if all employees are changed over a period of time. For this purpose documentation is strongly recommended. Three sets of documentation are required for the purpose:

- **Quality Manual:** covering quality policy and objectives of the organization; organisation chart and the statement of responsibility of each person in the organisation.
- **Procedure Manual:** showing flow charts indicating the different procedures in the organisation.
- **Work Instruction:** detailed instruction for specific tasks that are carried out everyday

For registration to ISO 9000, a third party audit needs to be carried out by the organization. Registration is process-based and not product-based. The company is assessed on the basis of the documentation of what it does and how far it complies with the documented facts.

6.9 TOTAL QUALITY MANAGEMENT (TQM)

TQM is a management approach in which quality is emphasized in every aspect of the business and organization. Its goals are aimed at long-term development of quality products and services. TQM breaks down every process or activity and emphasizes that each contributes or detracts from the quality and productivity of the organization as a whole. Management's role in TQM is to develop a quality strategy that is flexible enough to be adapted to every department, aligned with the organizational business objectives, and based on customer and stakeholder needs. Once the strategy is defined, it must be the motivating force to be deployed and communicated for it to be effective at all levels of the organization. Some degree of employee empowerment is also encompassed in the TQM strategy and usually involves both departmental and cross functional teams to develop strategies to solve quality problems and make suggestions for improvement.

6.9.1 Building Blocks of TQM

The building blocks of TQM can be classified into the following categories:

1. Processes
2. People
3. Management systems
4. Performance measurement

Process

Everything we do is a process, which is the transformation of a set of inputs, which can include action, methods and operations, into the desired outputs, which satisfy the customers' needs and expectations. In each area or function within an organization there will be many processes taking place, and each can be analyzed by an examination of the inputs and outputs to determine the action necessary to improve quality. In every organization there are some very large processes, which are groups of smaller processes, called key or core business processes. These must be carried out well if an organization is to achieve its mission and objectives. The section on processes discusses processes and how to improve them, and implementation covers how to prioritise and select the right process for improvement.

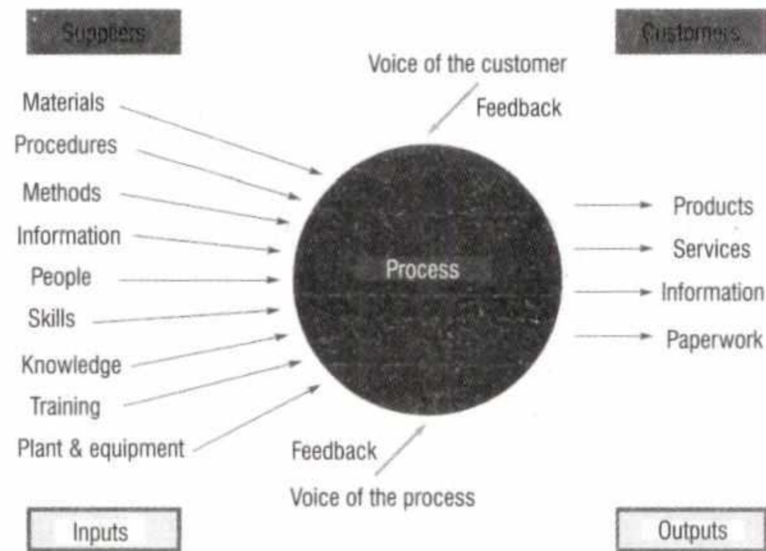


Fig. 6.2: TQM Process

People

The only point at which true responsibility for performance and quality can lie is with the people who actually do the job or carry out the process, each of which has one or several suppliers and customers.

An efficient and effective way to tackle process or quality improvement is through teamwork. However, people will not engage in improvement activities without commitment and recognition from the organization's leaders, a climate for improvement and a strategy that is implemented thoughtfully and effectively. The section on people expands on these issues, covering roles within teams, team selection and development and models for successful teamwork.

Quality Management System

An appropriately documented Quality Management System will help an organization not only achieve the objectives set out in its policy and strategy, but also, and equally importantly, sustain and build upon them. It is imperative that the leaders take responsibility for the adoption and documentation of an appropriate management system in their organization if they are serious about the quality journey. The systems section discusses the benefits of having such a system, how to set one up and successfully implement it.

Performance Measurement

Once the strategic direction for the organization's quality journey has been set, it needs Performance Measures to monitor and control the journey, and to ensure the desired level of performance is being achieved and sustained. They can, and should be, established at all levels in the organization, ideally being cascaded down and

most effectively undertaken as team activities and this is discussed in the section on performance.

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6.9.2 Models of TQM

Total Quality Management is a combined effort of both top level management as well as employees of an organization to formulate effective strategies and policies to deliver high quality products which not only meet but also exceed customer satisfaction. Total Quality Management enables employees to focus on quality than quantity and strive hard to excel in whatever they do. According to Total Quality Management, customer feedbacks and expectations are most essential when it comes to formulating and implementing new strategies to deliver superior products than competitors and eventually yield higher revenues and profits for the organization.

Credits for the process of Total Quality Management go to many philosophers and their teachings. Drucker, Juran, Deming, Ishikawa, Crosby, Feigenbaum and many other individuals who have in due course of time studied organizational management have contributed effectively to the process of Total Quality Management.

There are many models of total quality management and it is really not necessary that every organization should select and implement the same model.

Following are the various models of Total Quality Management

- Deming Application Prize
- Malcolm Baldrige Criteria for Performance Excellence
- European Foundation for Quality Management
- ISO quality management standards

Customers and their feedbacks are the foundation of every Total Quality Management model. In simpler words, Total Quality Management begins with understanding customers, their needs and what they expect from the organization. Design foolproof processes and systems to collect customer data, information to further study, analyze and act accordingly. Such activities not only help you understand your target customers but also predict customer behaviour. As a business marketer, you need to know the age group of your target customers, their preferences and needs. Employees need to know how their products or services can fulfil customer needs and demands.

Total Quality Management model requires meticulous planning and research. Every Total Quality Management model integrates customer feedback with relevant information and plans accordingly to design effective strategies to achieve high quality products. Strategies formulated to yield better quality products need to be evaluated and reviewed from time to time. Remember, customers are satisfied only when products meet their expectations, fulfil their needs and are value for money. Their overall experience with the organization needs to be pleasant for them to be happy and return to the organization even the next time. Continuous improvements,

changes and modifications in the existing processes according to customer expectations are necessary to yield higher profits. Processes can't be same always. If a customer complains about a particular product of yours, find out the root cause of the problem. Understand and implement necessary Total Quality Management models to rectify the problem, remove the defect for a high quality product.

The successful implementation of Total Quality Management model needs extensive planning and most importantly participation of every single member who is benefitted out of the organization (management, suppliers, clients and even customers). Without the participation of each and every employee, Total Quality Management model would be a complete failure. Total Quality Management model begins with research and collecting information about end-users followed by planning and full participation of employees for successful implementation. Top level Management needs to make other team members aware of the benefits of Total Quality Management process, importance of quality to survive in the long run and how they can implement various TQM models by prioritizing their customers and their feedbacks.

6.9.3 Relevance and Importance of TQM

What is attempted in the whole process of TQM is to introduce a new cultural change, through changing the style of people management which is likely to bring about greater participation from the employees who would work with the management to achieve the organizational goals and objectives. Management rewards come from the following:

- Work itself becomes more interesting through greater involvement of employees;
- Increase in general productivity;
- Lower absenteeism because of greater job interest and satisfaction to employees;
- Fewer grievances among the employees;
- All round greater team spirit

Top management must convey to middle management that it believes in TQM approach with the design of a deliberate policy. Middle management is expected to conduct the affairs keeping TQM policy in view, conveying the decision to supervisors. Once the entire organization is geared to the change, the new culture would get engrained in the organization leading to success.

A dramatic change is occurring in the scope and pace of technological advances that are contributing substantially to a fundamental shift in library and information products and services. This shift, although slow and halting in our country, is sure to affect the roles and responsibilities of professionals, alter working relationships and communication patterns, and a compulsion to provide alternatives to the existing information organizations. No longer can we talk about just computerisation of library and information services, but should examine the place of libraries in the context of

information/ knowledge society. Information and communication technology has various components—microcomputers, telecommunications with local, national and international networks offering electronic mail and conferencing systems, CDROM and other optical disc formats, offering bibliographic, textual and graphic products etc., all suggesting major opportunities and challenges for libraries and information professionals.

The information context in which libraries and information professionals may have to operate will be far more different than ever in the past, with more complex issues to be addressed and an environment in which the pace of change is likely to be highly accelerated and the risks and competition much greater. As the shift from an industrial to an information-based economy takes place, there will be far more aggressive participants in the production, processing, dissemination and distribution of information than ever before. Competition will be forthcoming from product designers, computer experts, telecommunication specialists, publishers, management specialists and many others. There is likely to be an increasing emphasis on commercialization of information and pricing of information would be a normal feature as against the current general view that information is a public good and should be available at no cost to a user. It must also be remembered that users will have many options to choose from to access information.

The issues before library and information professionals is how to cope with the increasing demand for information from a variety of users, use of ICT to redefine services, roles and responsibilities. In fact the real issue would be to retain and reinforce the basic role of the library as a primary provider of information. The redefinition of the library, however, will have to be in relation to the future opportunities and challenges. The aim and effort are to transform the library into an institution of creativity, entrepreneurship, innovation and productivity vis-a-vis the information provision. It is against this background that we should examine management of libraries and information centres. The philosophy of participative management, involving every group of personnel to achieve total quality in every aspect of library and information work would now become relevant, meaningful and valuable. Total Quality Management which blends the principles and practices of scientific management and participative management has to be given a fair trial. Undoubtedly it is only with an abiding faith in this philosophy that this culture can take roots in the country.

6.9.4 Principles of TQM

Different companies have different approaches to implement Total Quality Management (TQM). The following principles (which are common to all companies) must be adhered for the successful Total Quality Management (TQM) implementation:

- **Continuous improvement:** TQM is a long-term process that entails achieving improvements in the company's operations. This means that management

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should establish targets for improvement and measure progress by using reliable criteria. The quest for quality and better service to the customer should be a continual, never-ending one. Competitors will seek to provide better service and customers will come to expect it. Hence, to cease improvement efforts will likely lead to loss of competitive advantage and a decreased level of customer satisfaction.

- **Customer focus:** In TQM, the customer is believed to be the ultimate judge of quality. Therefore, the company must remain close to the customer and understand how he or she views and judges quality.
- **Strategic planning and leadership:** Achieving quality and market leadership requires a viable competitive strategy that outlines goals and desired outcomes. Moreover, senior executives should be responsible for introducing and supporting TQM programs.
- **Competitive benchmarking:** This means identifying companies or other organizations that are the best at something and then modeling your own organization after them. The company need not be in the same line of business as yours.
- **Employee empowerment:** TQM is based on humanistic management principles that suggest employee involvement and participation is essential for success. Giving workers the responsibility for improvements and the authority to make changes to accomplish them provides strong motivation for employees. This puts decision-making into the hands of those who are closest to the job and have considerable insight into problems and solutions. Empowered to bring about changes in their workplace, employees can creatively contribute to their company's well being.
- **Teamwork approach:** The use of teams for problem solving and to achieve consensus takes advantage of group thinking, gets people involved, and promotes a spirit of cooperation and shared values among employees. Further, teamwork creates opportunities for learning and exchanging ideas.
- **Knowledge of tools:** Everyone in the organization is trained in the use of quality control and improvement tools.

The entire organization must be subjected to the search for improved ways of performing; nothing should be regarded as sacred or untouchable. A sometimes helpful view is to consider the internal customers and strive to satisfy them; that is, every activity in an organization has one or more customers who receive its output. By thinking in terms of what is needed to satisfy these customers, it is often possible to improve the system and, in doing so, increase the satisfaction of the final customer.

6.10 BENCHMARKING

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Benchmarking is a strategy that is often employed to assess the level of overall performance of a company operating within a specific industry. Benchmarks themselves are those standards of excellence for productivity, quality, service delivery, and cost that are recognized as being the ideal within that particular field. The process of benchmarking helps a business to have an idea of its overall standing within the community, and make it possible to identify areas where there is room for improvement.

The establishment of a benchmark within an industry or profession does not appear overnight. Often, the benchmark is created over a number of years. From that point on, any new business entering the same field will judge their overall performance against the standards already in place within the industry. Those standards remain the norm until a competitor exhibits qualities that exceed the standard, and thus raise the benchmark for all other companies within the industry.

A prime example of benchmarking can be seen in the field of telecommunications during the second half of the 20th century. Prior to the deregulation of the telephone industry in the United States during 1984, one company had established itself in terms of products, service delivery, and customer care. In order for emerging companies to compete, it was necessary to at least match those same standards with a lower rate, or to surpass those standards while still maintaining a rate that consumers would find attractive. The end result is that the overall benchmark for telecommunications within the United States began to change, as companies vied for the honor of setting the new industry standard.

Internally, benchmarking is one of the most effective strategies a company can use to position itself for growth. Because the proper assessment of how the company measures up to the industry standard relies on being brutally honest about policies, procedures, pricing, and service delivery, companies can get a better idea of exactly where they need to improve in order to increase market share, or even to maintain the share of the market they current command. When used effectively, benchmarking can lead a company to become more innovative, think about their business model in new ways, and even identify new consumer markets that could be targeted, thus increasing the overall sales generated by the company.

It is important to note that benchmarking is not a process that is conducted once in a great while, and then set aside for a few years. Companies that want to remain competitive are constantly in the process of evaluating their practices and procedures against the standards for their industries, and looking for ways to meet or exceed those standards. In a time when technology is constantly changing the way consumers make decisions on what to buy and who to buy it from, benchmarking has taken on even more importance for companies that want to be in business for many years to come.

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Check Your Progress

Fill in the Blanks

4. The emphasis of .... is to assure that the manufacturer's products are consistently same always even if all employees are changed over a period of time.
5. .... breaks down every process or activity and emphasizes that each contributes or detracts from the quality and productivity of the organization as a whole.
6. .... is a strategy that is often employed to assess the level of overall performance of a company operating within a specific industry.
7. Total Quality Management model requires meticulous ....

The Benchmarking Process

Camp (1989) lists the following steps for the benchmarking process

1. **Planning**
   (a) Identify what is to be benchmarked
   (b) Identify comparative companies
   (c) Determine data collection method and collect data
2. **Analysis**
   (a) Determine current performance "gap"
   (b) Project future performance levels
3. **Integration**
   (a) Communicate benchmark findings and gain acceptance
   (b) Establish functional goals
4. **Action**
   (a) Develop action plans
   (b) Implement specific actions and monitor progress
   (c) Recalibrate benchmarks
5. **Maturity**
   (a) Leadership position attained
   (b) Practices fully integrated into process

The first step in benchmarking is determining what to benchmark. To focus the benchmarking initiative on critical issues, begin by identifying the process outputs most important to the customers of that process (i.e., the key quality characteristics). This step applies to every organizational function, since each one has outputs and customers. The QFD/customer needs assessment is a natural precursor to benchmarking activities.

Case Study: TQM Initiatives by Carcom

'Carcom' is a supplier of automotive safety components employing around 700 staff which is located on two sites in Northern Ireland. The company was originally American owned but after a joint venture with a Japanese partner in the late 1980s, it was eventually bought out by the latter.

The quality initiative began in 1988-89 with a five-year plan based on the Kaizen philosophy, this concept having been picked up from the Japanese partner. This was driven by senior management in response to what they saw as increasing customer demand and operating considerations. The achievement of ISO 9001 registration in 1990 brought together processes carried out by departments which had previously been undertaken in isolation. The company is now focusing on

Kaizen with the principles of improvement, customer delight, systems focus and participation. A range of quality management tools and techniques are used. A TQM steering committee is responsible for overall direction but there is also a further steering committee to oversee implementation of the Quality Improvement Teams (QITs) as well as a full time coordinator. There are teams of shop floor operators based on natural workgroups, and these tend to focus on product problems and environmental issues (such as working conditions). In contrast, Kaizen teams focus on process improvements (for example, die change) and problem-solving workgroups are established in response to specific customer concerns (for example, warranty claims).

Senior managers stress that a long-term approach is now being taken which is in contrast to some of the programmers in the early 1980s. These former piecemeal initiatives included quality circles which had been characterized by considerable changes in personnel, with a number of champions having moved on leaving behind a flagging initiative in contrast, the company is now taking time to get the processes right and providing a central focus through quality for change. Cultural change is the aim but it is recognized that only incremental progress can be achieved and that a supportive attitude is required from management. Thus, QIT members are given extensive training and are encouraged to tackle problems which give early success and build teamwork, rather than put pressure on teams to deliver immediately on big issues.

The Impact of the TQM Initiative

While it is still early days, the initiative is already felt to have had a major impact. The management structure has been reduced by one layer, shop floor layout has been improved, and scrap rates, stock, work-in-progress and inspection times have been reduced, so too have the numbers of inspectors, whose role is now seen as one of analysts. Employee response to these changes has generally been positive, and the company has spent considerable effort in relating 'quality' directly to employees' work, particularly through the use of measures which are displayed adjacent to the workstation and maintained by staff themselves. The unions were assured that there would not be job losses as a result of Kaizen, although they continue to have concerns about this and also raise the issue of payment for changes in job roles—particularly in relation to SpC. The company has adopted an open information policy to foster greater trust at the workplace, and business-related issues are given greater prominence at the joint works committee meetings. Management also believe that the quality initiative has led to a reduction in union influences although this was not an original objective.

The Strategic Nature of the Human Resource Function

The human resource function has emerged from a welfare to a more strategic role in recent years. This has been assisted by an MD who is regarded as a

people's person claiming that 'you can't divorce people from quality,' and by the appointment of a personnel director together with a new industrial relations manager. This has broadened the role of human resources and enhanced its status. The appointment of a training manager was significant, since under the previous regime little off-the-job training was conducted. Training budgets have actually increased in volume and monetary terms despite the company's recently recorded trading losses. Recruitment and selection are becoming more sophisticated as the company wishes to identify team workers.

The links between human resources and quality were made explicitly by the MD : "We cannot separate HR from TQM, and without HR the QIP will not work effectively." In addition to the issues mentioned above, the function was also seen as being important in building the people aspect into the strategic quality planning process. Addressing the problem of absenteeism, and supporting line management by helping to change employee attitudes/organizational culture. In addition, the function has provided appropriate training programmers for quality, in which there has been considerable investment in time and resources, it has counselled the mentors to the QIT, and ensured that managers communicate with staff by providing advice on the best means of doing this. Quality principles are also being developed in relation to the human resource function, with specific targets being set (for example, for absenteeism) as well as more general aims (for example, on training).

Questions

1. Analyze the links between TQM and HRM with reference both to this case study and more generally.
2. What does the case study demonstrate about the contribution a personnel/ HRM function can make to the development of TQM in an organization ?
3. How might the principles of TQM be applied to a personnel function ?
4. What general implications does TQM have for industrial relation?

Source: *http://www.mbaknol.com/management-case-studies/case-study-tqm-initiatives-by-carcom/*

6.11 SUMMARY

- Remarkable improvements in the efficiency of maritime transportation have been made in the last 50 years. The costs of bulk shipping have increased only about one-tenth of the overall inflation rate, not even double what they were 50 years ago.
- Container shipping began modestly in 1956 when Malcolm McLean moved 58 containers from New York to Houston.

- The automotive industry is preparing the passenger car and small van market for a diversification of its energy source as part of a transition from fossil fuel powered engines to hybrid, battery electric or fuel cell electric technology.
- The public is coming to appreciate more-and-more the advantages of railways over other transport modes—higher energy efficiency, lower land occupation, lower emission (CO_2, pollutants), etc.
- Billing represents the final processing stage for a business transaction in Sales and Distribution. Billing is also the essential link between sales and financial accounting.
- E-Payment is an online billing solution offering subscribed merchants' customers the facility of extending their payment options to online payment. E-Payments are secure real time payments that transfer funds (via the Internet) between a consumer and the merchant's financial institutions.
- TQM is a management approach in which quality is emphasized in every aspect of the business and organization.
- Benchmarking is a strategy that is often employed to assess the level of overall performance of a company operating within a specific industry. Benchmarks themselves are those standards of excellence for productivity, quality, service delivery, and cost that are recognized as being the ideal within that particular field.

6.12 KEY TERMS

- **E-Payment:** E-Payment is an online billing solution offering subscribed merchants' customers the facility of extending their payment options to online payment.
- **Electronic Funds Transfer (EFT):** An electronic funds transfer (EFT) is a process whereby money is transferred from one place to another electronically. Computers are used to process payments in a variety of ways. The EFT procedure is a quick and efficient way to transfer money from one account to another.
- **TQM:** TQM is a management approach in which quality is emphasized in every aspect of the business and organization.
- **Benchmarking:** Benchmarking is a strategy that is often employed to assess the level of overall performance of a company operating within a specific industry.

6.13 ANSWERS TO 'CHECK YOUR PROGRESS'

1. Billing document is an umbrella term for invoices, credit memos, debit memos, pro forma invoices and cancellation documents. Billing documents are created with reference to a preceding document (copying controls).

2. E-Payment is an online billing solution offering subscribed merchants' customers the facility of extending their payment options to online payment. E-Payments are secure real time payments that transfer funds (via the Internet) between a consumer and the merchant's financial institutions.
3. An electronic funds transfer (EFT) is a process whereby money is transferred from one place to another electronically. Computers are used to process payments in a variety of ways.
4. ISO 9000 5. TQM 6. Benchmarking
7. Planning and research

6.14 QUESTIONS AND EXERCISES

Short Answer Questions

1. What do you mean by card billing?
2. Define e-payment.
3. Write a brief description of ISO 9000.
4. What are the key building blocks of TQM?
5. Define benchmarking.
6. What are the container ships?
7. What is a billing agreement?
8. What are the key features of credit cards?

Long Answer Questions

1. Discuss the key advances in shipping and flight technology.
2. Write a detailed note on truck and rail technology.
3. Define e-payment. Discuss the role and importance of electronic fund transfer.
4. Discuss the nature and scope of TQM. What are the key principles of TQM?
5. Discuss the concept of benchmarking.
6. Discuss the process of initiating payment through cards?
7. Discuss the nature and scope of ISO 9000.

MODEL QUESTION PAPER

DISTANCE EDUCATION

MBA Degree Examination

Fourth Semester

Logistics Marketing and Technology

NOTES

Time: Three hours *Maximum: 100 Marks*

PART A **(5 × 8 = 40 Marks)**

Answer any FIVE Questions

1. What are the key approaches to study of marketing? Critically evaluate all the approaches.
2. Define marketing mix. What are the key elements of marketing mix?
3. Define market segmentation. What are the key basis and types of market segmentation?
4. Discuss the line, range and consistency of product/service mix offerings.
5. Why organizations need advertisement? What are the different types of advertisement?
6. What are the key supply chain management software? Discuss their role and importance.
7. Discuss the concept of transportation routing, mileage and mapping software.
8. Define e-payment. Discuss the role and importance of electronic fund transfer.

PART B **(4 × 15 = 60 Marks)**

Answer any FOUR questions

9. Discuss the nature and scope of marketing environment and system.
10. Discuss the comparison between differentiated and undifferentiated marketing.
11. What are the key the strategic decision and design elements that must be considered in the service process planning?
12. Write a detail note on different types of pricing policies and their effectiveness?
13. What are the key rules to remember to allocate budget for promotional expenses?
14. Discuss the concept of integrated GPS, wireless data and micro-chip technology system.
15. Discuss the nature and scope of TQM. What are the key principles of TQM?

MBA

PAPER - 4B2

LOGISTICS MARKETING AND TECHNOLOGY



ALAGAPPA UNIVERSITY

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